

МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ
ОДЕСЬКИЙ ДЕРЖАВНИЙ ЕКОЛОГІЧНИЙ УНІВЕРСИТЕТ

МЕТОДИЧНІ ВКАЗІВКИ

до практичних занять з навчальної дисципліни
«Іноземна мова за професійним спрямуванням»
(англійська мова)

для студентів II курсу III семестру
денної форми навчання
спеціальність: «Комп'ютерні науки»

Затверджено
на засіданні групи забезпечення спеціальності
Протокол № 1 від «14» серпня 2023 р.

Голова групи _____ Кузніченко С.Д.

Затверджено
на засіданні кафедри соціально-гуманітарних наук

Протокол № 9 від «21» червня 2023р.

Завідувач кафедрою соц.-гум. наук



Бубнов І.В.

МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ
ОДЕСЬКИЙ ДЕРЖАВНИЙ ЕКОЛОГІЧНИЙ УНІВЕРСИТЕТ

МЕТОДИЧНІ ВКАЗІВКИ
до практичних занять з навчальної дисципліни
«Іноземна мова за професійним спрямуванням»
(англійська мова)

Для студентів II курсу III семестру
денної форми навчання
Спеціальність – 122 «Комп'ютерні науки»
Рівень вищої освіти - бакалавр

Одеса – 2023

МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ
ОДЕСЬКИЙ ДЕРЖАВНИЙ ЕКОЛОГІЧНИЙ УНІВЕРСИТЕТ

МЕТОДИЧНІ ВКАЗІВКИ
до практичних занять з навчальної дисципліни
«Іноземна мова за професійним спрямуванням»
(англійська мова)

Спеціальність - 122 «Комп'ютерні науки»
Рівень вищої освіти - бакалавр

Затверджено
на засіданні групи забезпечення спеціальності
Протокол № 1 від «14» серпня 2023 р.

Лукащук І.В. Методичні вказівки до практичних занять з навчальної дисципліни «Іноземна мова за професійним спрямуванням» (англійська мова) для бакалаврів II курсу III семестру денної форми навчання. Напрямок підготовки – спеціальність 122 «Комп'ютерні науки». Одеса: ОДЕКУ, 2023. 75 с.

ЗМІСТ

Передмова	4
LESSON 1	
Text A <i>10 FAMOUS COMPUTER SCIENTISTS</i>	5
Text B <i>HOW DOES COMPUTER SCIENCE HELP THE WORLD?</i>	10
The Infinitive.....	15
LESSON 2	
Text A <i>THE SILENT LANGUAGE WE CAN'T LIVE WITHOUT</i>	23
Text B <i>IF YOU WANT TO BECOME A PROGRAMMER</i>	27
The Participle	30
LESSON 3	
Text A <i>WHAT IS ARTIFICIAL INTELLIGENCE</i>	37
Text B <i>UNDERSTANDING AI: IS IT GOOD OR EVIL?</i>	41
The Gerund.....	43
LESSON 4	
Text A <i>CYBERCRIMES</i>	51
Text B <i>SAFEGUARDS FOR YOUR SOCIAL NETWORKING PROFILES</i>	56
Grammar Revision	59
Additional Tasks.....	63
Keys to the tasks.....	73
Список використаної літератури	74

ПЕРЕДМОВА

Методичні вказівки до практичних занять з англійської мови призначені для бакалаврів II курсу III семестру денної форми навчання зі спеціальності «Комп'ютерні науки» та розраховані на 60 годин аудиторної та самостійної роботи.

Мета запропонованих методичних вказівок – розвинути навички читання спеціалізованих текстів англійською мовою, закріпити вміння розуміння, обробки та використання отриманої з текстів інформації для обміну думками, для переказу прочитаного, для створення власних розповідей на основі поданого матеріалу. Окрім того, розвивати навички реферування літератури, яка містить спеціальну лексику за фахом.

Також невід'ємною складовою мети є розвиток навичок вживання визначених граматичних одиниць мови (інфінітив, дієприкметник, герундій), вправлення у їх використанні в усному та писемному мовленні.

Методичні вказівки складаються з чотирьох уроків, кожен з яких містить по два лексичні тексти для опрацювання, теоретичний та практичний матеріал з граматики. **Тексти А та В** у кожному уроці рівнозначно розроблені для читання, аналізу, переказу, бо містять завдання, що виконуються до читання, під час читання та після прочитання. У даних методичних рекомендаціях наявні також додаткові завдання до текстів, які зібрані у розділі **Additional tasks**.

Грамматична складова методичних рекомендацій розподілена також на чотири уроки, а кількість вправ для виконання дозволить обрати найнеобхідніші чи найцікавіші на кожному етапі навчання.

Оскільки методичні рекомендації вміщують кросворд, завдання на знаходження відповідності між певними поняттями, на асоціативне відчуття, то в розділі **Keys** можна знайти відповіді до них.

Для збору інформації при складанні даних методичних рекомендацій використовувались сучасні актуальні матеріали, найсвіжіші дані за обраними темами мовою оригіналу з мережі Інтернет, а також посібники з граматики.

LESSON 1
Text A
10 FAMOUS COMPUTER SCIENTISTS

Pre-reading activities

- 1. Say if you have ever thought what kind of people become successful in computer science. Are they all alike? What do they have in common?**
- 2. Comment on the following statement.**

... Despite what you might think, the computer science field is a patchwork of creative, innovative thinkers from all backgrounds, races, and genders...

- 3. Make sure you know the meaning of abbreviation “LGBTQ “. This is an initialism that stands for "lesbian, gay, bisexual, and transgender. The letter Q is for those who identify as queer or are questioning their sexual or gender identity.**

- 4. Read the following introduction on your own and formulate the main idea of it.**

If you are an aspiring programmer, software engineer, or data scientist – or even a student just starting a computer science degree – you may find yourself wondering, "Who should I look up to?" If you belong to a group that is underrepresented in computer science, such as people of color, women, and LGBTQ+ people, this might seem like an especially hard question to answer. The good news is that we have some famous computer scientists of diverse backgrounds to share with you who might be able to offer inspiration.

Computer science has not always been dominated by white men – rather, the field is a patchwork of creative and innovative thinkers from all races, genders, and backgrounds. With time, this patchwork continues to become more diverse and inclusive.

Read on to learn about some of the most famous computer scientists in history with whom you might have a lot in common.

- 5. Look at the pictures of computer scientists. Say if you recognize any of them. If you do not – look through the list of surnames below and express your suppositions who these people are. Browse the Net to check. If possible give some pieces of information about them (the country they are from, their achievements or inventions in the computer sphere, the period they live/ lived in).**



While –reading activities

- 1. Read Text A and distinguish the general idea of it.**
- 2. When reading the text write out one phrase which you think to be the most important about every scientist.**

The list of scientists that follows has been organized according to three main factors: historical importance, relevance to underrepresented groups, and impact on computer science knowledge. While many of the scientists you will find in this list are famous in computer science circles, not all are necessarily well-known to the public.

Read on for ten groundbreaking computer scientists from the past and present. We hope you will find inspiration in their stories and feel the call to follow in their scientific footsteps.

1. Ray Tomlinson

Computer programmer Ray Tomlinson is credited as the "inventor" of email – in 1971, he created person-to-person network email while working at the research and development company Bolt Beranek and Newman. Tomlinson was the first to use the "@" /æt/ symbol to separate local from global emails in email addresses, pioneering the "user@host" structure of email addresses used now.

Thanks to Tomlinson's experimentation, it became possible for users at different computers to transmit messages, which eventually ushered in a revolution in human communication.

2. Margaret Hamilton

Margaret Hamilton coined the phrase "software engineer" in 1963. Hamilton's greatest achievement was perhaps leading the team that programmed the guidance computer for the Apollo moon missions of the late 60s and early 70s.

In 2016, Barack Obama presented Hamilton with a presidential medal of honor acknowledging her pioneering and inspiring contributions to computer science.

3. Alan Turing

Alan Turing is an English computer scientist, widely considered to be the father of computer science. Alan Turing, one of the most influential computer scientists of all time, invented the first computer in 1936.

Turing is also remembered for his theories on artificial intelligence that are still studied today. The Turing test is his most prominent idea, as it looks at whether a computer can mimic human behavior independently and fool people. Work in robotics and artificial intelligence is built on these ideas.

The prestigious "Turing Award" was named after him - an award given to those in computer science who make a significant contribution to the industry. Today, the Turing Award is the highest distinction in computer science, awarded by the Association for Computing Machinery (ACM).

Turing worked for the British Government. During World War II, the Germans had invented the enigma machine to encrypt messages. Alan Turing led a team to cracking many of these messages and, in turn, saved many lives.

Despite the sheer brilliance of his work, he was not fully recognized for his contributions as he was a homosexual, which was illegal in the UK at the time. But at

present he has become a symbol of the LGBTQ+ community's important presence in STEM. If you are interested in the history of computer science, Alan Turing's biography is a must-read.

4. Grace Hopper

Grace Hopper was a navy admiral and a pioneer of computer programming. Hopper invented the FLOW-MATIC programming language in 1953, an important precursor to the COBOL programming language still used today. The program was the first of its kind to use word commands rather than symbols.

Hopper also helped program the Harvard Mark I computer that played a key role in the final years of WWII. In 2016, she was awarded the presidential medal of honor for her contributions to computer science.

5. Barbara Liskov

Barbara Liskov is a computer programmer who pioneered modern techniques in writing code. The Liskov Substitution Principle used in practical computer coding is named after her. Liskov used concepts from artificial intelligence to simplify and automate the coding process. Her system design and programming ideas introduced methods for fault tolerance and data abstraction now used every day to help software run seamlessly.

In 2008, Liskov received the Turing Award in recognition for her contributions to computer science.

6. Jerry Lawson

Jerry Lawson was a Black game designer and forgotten pioneer of the video game industry. In 1976, Lawson helped design the Fairchild Channel F, the first cartridge-based video game system. Later, he went on to found his own video game company, Videosoft, and work at Stanford.

Lawson's contributions to computer science were sadly overlooked for decades, though he was recently spotlighted in the Netflix documentary *High Score*. He passed away in 2011.

7. Clarence Ellis

Clarence Ellis was an influential computer science researcher active at Xerox PARC in the 70s and 80s. He was the first African American to receive a doctorate in computer science.

OfficeTalk, a collaborative word processing and editing program that predated Google Docs, was developed by Ellis in the 80s. Ellis pioneered Operational Transformation, a set of techniques for technology-based organizational collaboration. Sadly, he passed away in 2014.

8. Guido van Rasmus

Guido van Rasmus is the original creator of the Python programming language, which he named after the Monty Python comedy troupe. Van Rasmus created the seminal programming language in 1989 as a hobby to keep him occupied during his workweek. Today, Python is used in data science, full-stack development, and software engineering all over the world.

In 2012, van Rasmus retired from his role as the "Benevolent Dictator for Life" representative of the Python community.

9. Carl Sassenrath

Carl Sassenrath is a lesser-known pioneer of personal computers. His AMIGA line, introduced in 1985, was not the first personal computer, but it was the first capable of performing multiple tasks simultaneously. The series is credited as the first computer series to demonstrate personal computers' capability as versatile, multitasking tools. These computers were used as home computers mostly for games and creative software.

Sassenrath later went on to develop REBOL, a dynamic programming language specialized for network communications.

10. Kimberly Bryant

Kimberly Bryant is an engineer known primarily for founding Black Girls Code, a nonprofit organization aimed at increasing the representation of women of color in STEM. The organization is an educational resource that teaches Black girls between 7-17 how to code. Bryant, who worked for Pfizer and Novartis before founding Black Girls Code, originally founded the organization to help her daughter Kai learn programming.

Black Girls Code aims to help 1 million black girls learn to code by 2040.

In conclusion

So there you have it – ten famous computer scientists who changed the world. Our hope is that these innovators will inspire you to think creatively and share your gifts with the world.

Post –reading activities

1. Split into pairs, read out the phrases you've written out to your partner and ask them to guess whom you meant.

2. Find the answers to the questions below and make sure you remember the main messages of the text.

- 1) What makes the computer science field be a patchwork?
- 2) What factors did the author take into consideration when making the above list of scientists?
- 3) Ray Tomlinson made it possible for users at different computers to transmit messages, didn't he?
- 4) What term did Margaret Hamilton create? Is it used nowadays?
- 5) How is the year 1936 connected with Alan Turing?
- 6) What is the name of the award given by Association for Computing Machinery (ACM) to distinguished computer scientists?
- 7) How did Turing's knowledge save many lives in WW II?
- 8) What programming language did Grace Hopper invent? Was she awarded a medal for it?
- 9) What concepts did Barbara Liskov use in working at coding process?
- 10) How is Jerry Lawson connected with the video game industry?
- 11) OfficeTalk, a collaborative word processing and editing program that predated Google Docs, was developed by Ellis in the 80s, wasn't it?
- 12) What is the connection between the Monty Python comedy troupe and the programming language created in 1989?
- 13) Who is the author of REBOL, a dynamic programming language?

14) How did engineer Kimberly Bryant help her daughter Kai in learning programming? Is her organization successful? What does year 2040 mean for the Black Girls Code organization?

3. Trace the dates of appearance, names and authors of different programming languages. Make up a table using this information. Find on your own and add into the table additional information about these scientists. Share it with your groupmates.

4. Find the meaning of the following acronyms used in Text A: ACM, UK, LGBTQ, STEM, COBOL, WW, PARC, REBOL. Which of them appeared in the course of developing of computer techniques and which of them are not connected with computer science?

5. Which surnames have you never heard before? Whom would you like to learn more about? Choose one scientist of the given above and prepare a short story about his/her biography. Try to concentrate on the achievements in their professional sphere as well as on some unusual, exciting facts of their private life.

6. Read this brief time-line of Computer Science. Are the statements true or false? Correct the false ones.

<p>1822 C. Babbage steam-driven calculating machine</p> <p>1890 H. Hollerith punchcard system, founder of the future IBM company</p>	<p>1936 thanks to Alan Turing's machine any computer algorithm could be simulated</p>	<p>1943-44 J. Mouchly and J. Presper Eckert built ENIAC</p>	<p>1953 G. Hopper the grandmother of COBOL, developed the first computer language</p>	<p>1961 G. Forsythe established Computer Science as a discipline</p> <p>1970's – C and Pascal Languages – S. Jobs and S. Wozniak rolled out the Apple I</p>	<p>1981 Acorn, the first IBM personal computer used MS-DOS</p> <p>1990 Tim Berners-Lee developed HTML, the WWW was born</p>	<p>1996 L. Adleman developed the DNA computing studies</p> <p>2001 Mac OS X operating system was launched</p>	<p>2013 Stanford researches created a sort of biological computer</p> <p>2016 IBM created free quantum cloud computing</p>
--	--	--	--	---	---	---	--

7. Do additional task on p. 63. Render the article *Talents of Computer Science*

LESSON 1

Text B

HOW DOES COMPUTER SCIENCE HELP THE WORLD?

Pre-reading activities

- 1. Read the quote aloud. Comment on it, support the author's idea or disagree with it.**

The digital revolution is far more significant than the invention of writing or even of printing.

Douglas Engelbart

While-reading activities:

- 1. Read paragraph 1 and try to find the sentence which expresses the main idea of it. Read the sentence aloud and explain your choice.**
- 2. Read paragraph 2 and be ready to explain what events the following dates and names are connected with. You may make notes when reading. 1940s, 1950s, 1970s, Elon Musk, Steve Jobs, Bill Gates.**
- 3. Look through paragraph 3 which tells us about applications of computer science in different fields. Pay special attention to the phrases typed in bold and those underlined. Are there any fields of life which cannot exist without computers? Read the paragraph and be ready to name such spheres.**

The World without Computer Science

The question, "How does computer science help the world?" may seem like a simple question, but it's one that can become complex very quickly when you think of the many benefits computer science brings to us in our personal and professional lives.

Can you imagine the world without computer science? Let's try and hypothesize what it would look like, just for fun.

We would wake up in the morning without our smartphones and laptops, unable to access the internet or communicate with people across the globe. We would have no way of accessing information or data, and no way of knowing the news or weather. We wouldn't be able to shop online, watch movies and television shows, or use GPS to navigate our way to a destination.

In addition, many of the most important inventions and breakthroughs in science, technology, and medicine would never have happened.

Without computers, we'd be stuck in a world without the same level of comfort and convenience that we enjoy today. We would be living in a much more primitive world, where progress would be incredibly slow and difficult. We would be back in time around the 1960s, when computers and other computer-integrated devices were just starting to be used in everyday life.

Can you appreciate just how much computer science helps the world be a more advanced and modernized place?

When Did It All Start?

Let's transport back in time to the early 19th century when computers were just being invented.

The first computers were massive, slow devices that were very expensive and difficult to use. They also only performed relatively simple tasks like addition or subtraction and required enormous resources to complete them.

It wasn't until the 1940s when scientists and engineers began to develop computers that could perform more complex tasks like solving equations and playing games.

By the late 1950s, computers had become smaller and more powerful, but they were still extremely costly and limited in what they could do.

It wasn't until the 1970s when computers started to become more affordable and began to be used in more everyday tasks such as word processing, accounting, and data analysis, thanks to geniuses like Steve Jobs and Bill Gates.

This period in time marked the beginning of a new era for computers, which would ultimately lead to the development of advanced technologies like artificial intelligence, big data, the internet of things and so much more.

Fast forward to today, computers have become an integral part of our lives. Elon Musk even suggests that we live in a state of symbiosis with our computers and smartphones, depending on them as much as they depend on us.

Applications of Computer Science in Different Fields

Improves Healthcare

Doctors, hospitals and health facilities everywhere are all striving for the same thing: to provide better healthcare to people everywhere.

One of the most important applications of computer science in healthcare is the development of electronic medical records (EMR). These digital databases allow doctors and nurses to keep track of patient data easily and securely, allowing for more accurate diagnoses and treatment plans.

Computer science also helps us to develop new diagnostic modalities, such as MRI or CT scans, that allow us to detect diseases much earlier than ever before.

Computer science has also enabled the research and development of new medications, by allowing scientists to process large amounts of data quickly and accurately.

Genomic sequencing, which heavily relies on computational methods, has allowed us to better understand how diseases work, and how to develop more effective treatments.

Finally, computer science has enabled telemedicine, which allows doctors to diagnose and treat patients remotely. This has made healthcare much more accessible for those who may not be able to travel to a doctor in person.

Advances in Education

E-learning applications and platforms are providing students with new tools to study and solve problems which is bringing positive change to the academic world. Let's not forget about distance education and how it's enabled people to earn degrees online.

Computer science also plays a role in how we evaluate student performance, with tools such as automated grading systems

Text and data processing apps such as Microsoft Office and Google Docs make it easier for students to compile and format their work, while educational software can help teachers create engaging presentations and simulations.

Even in our home life, we're able to Google things and obtain even more education. The phrase "Google it" has become a household word and one that wouldn't be possible if not for computer science. Computer science advances education in more ways than we can even count.

Computer science has made education much more accessible and efficient, allowing us to learn from anywhere in the world, at any time.

Communications

Computer science has revolutionized how we communicate with one another. The invention of email and messaging platforms, such as those offered by Microsoft, Google, and Meta, has made it easier than ever to stay connected with our friends and family around the world.

Internet calls and video chats allow us to have face-to-face conversations with people from virtually anywhere, while social networks such as Facebook and Twitter allow us to share our thoughts and opinions with a much wider audience.

Computer science has also enabled the development of virtual conferences, which allow businesses to hold meetings without requiring anyone to leave their office or home.

These platforms have made it easier for companies to collaborate on projects and share ideas without having to worry about travel costs or time constraints.

Builds Careers

Computer science has the potential to build many careers because it offers so many career opportunities. Computing jobs are not only some of the highest-paid jobs, but are also have the highest job satisfaction. Students interested in computer science can pursue degrees in various areas, including computer science, computer programming, systems analyst, software engineer, and engineering, among many others. Graduates of computer science programs have taken jobs at companies like Microsoft, JP Morgan Chase, Google, Price Waterhouse, and Eli Lilly to name just a few.

Can Predict and Avoid Disasters

Computer science has revolutionized how we track and respond to natural disasters. By using data from seismometers, satellites, and weather measurements, scientists can more accurately predict earthquakes, hurricanes, tornadoes, and other extreme weather events.

This information can then be used to alert people in affected areas of the potential danger and give them the opportunity to prepare or evacuate.

Computer science is also being used to track and monitor the spread of epidemics, such as COVID-19 or Zika virus.

By tracking how the disease is spreading and how it is affecting different regions, health organizations can coordinate their efforts more effectively and quickly respond to outbreaks.

Entertainment

Computer science has revolutionized how we entertain ourselves. From video games to streaming services, computer science has enabled us to explore new worlds and experience entertainment in ways never before thought possible.

Computer science has also enabled us to create immersive virtual reality experiences, allowing us to explore new worlds and experience entertainment in ways never before thought possible.

Science and Technology

Computer science has played an essential role in advancing science and technology, from the development of new scientific methods to the automation of complex tasks.

Business and Finance

Computer science helps banks and other financial institutions keep track of customer data and transactions, allowing them to make informed decisions with the help of algorithms.

Computer science has also allowed us to process large amounts of data quickly and accurately, making it easier for businesses to make decisions on how to allocate resources, how to maximize profits, how to optimize customer service, and how to keep up with changing markets.

Computer science makes a huge difference in personal finance by making such things as online banking, immediate transactions, and investing possible.

Computer science has also helped revolutionize how we shop with the introduction of e-Commerce platforms and apps, giving us access to a wide range of products and services from the comfort of our homes.

We are on the brink of a new era, and computer science is at the forefront of making it happen. The possibilities are endless!

Post-reading activities

1. Read the following quotes. Think whom they can belong to - Elon Musk, Steve Jobs, Bill Gates

- 1) “Being the richest man in the cemetery doesn’t matter to me. Going to bed at night saying we’ve done something wonderful...that’s what matters to me.”
- 2) “Sometimes life is going to hit you in the head with a brick. Don’t lose faith.”
- 3) “Your work is going to fill a large part of your life, and the only way to be truly satisfied is to do what you believe is great work. And the only way to do great work is to love what you do. If you haven’t found it yet, keep looking. Don’t settle. As with all matters of the heart, you’ll know when you find it.”
- 4) “I’d rather be optimistic and wrong than pessimistic and right.”
- 5) “It’s very important to like the people you work with; otherwise, life and your job is gonna be quite miserable.”
- 6) “It’s fine to celebrate success, but it is more important to heed the lessons of failure.”
- 7) “I choose a lazy person to do a hard job. Because a lazy person will find an easy way to do it.”
- 8) “Technology is just a tool. In terms of getting the kids working together and motivating them, the teacher is the most important.”
- 9) “Success is a lousy teacher. It seduces smart people into thinking they can’t lose.”

2. Read this list of existing and future innovations. Look for some information on the Internet and then report on one to the class.

1. Smartphone-connected contact lenses.
2. Smartphone Earthquake detector application.
3. DNA testing and sequencing/human genome mapping.
4. Non-invasive laser/robotic surgery (laparoscopy).
5. Quantum computing.
6. Back-up memory of human brains.

3. Do additional task on p. 66. Render the article *The Future of Computer Science*.

**THE VERBALS (NON-FINITE FORMS OF THE VERB).
THEIR COMMON CHARACTERISTICS
БЕЗОСОБОВІ ФОРМИ ДІЄСЛОВА. ЇХ СПІЛЬНІ ХАРАКТЕРИСТИКИ**

Безособові форми дієслова об'єднуються в одну групу завдяки тому, що мають певні спільні характеристики. Вони називають дію, але при цьому не вказують на особу, число і спосіб, на відміну від звичайних дієслів. Також характерною рисою, тією, завдяки якій вони не належать до групи звичайних дієслів, є те, що вони виражають час та стан тільки відносно основного дієслова в реченні. Тобто, показують, чи виражена ними дія одночасна з дією, вираженою основним дієсловом, чи передувала їй.

Розгляньте таблицю. В п.5 to have enjoyed означає, що спочатку ця, виражена безособовою формою дієслова, дія відбулася – Адель насолодилася відпусткою, а потім про неї говорили. З речення He seems to have thought about it before зрозуміло, що він спочатку подумав, а потім оточуючим це здалося.

А в реченні з seems to be thinking та saw Peter doing спостерігаємо одночасність виражених дій.

#	КАТЕГОРІЯ	ФОРМИ ТА ПРИКЛАДИ
1	Особа	-
2	Число	-
3	Час	-
4	Спосіб	-
5	Вид	<p>Non-Perfect: Indefinite (Simple), e.g. Helen <u>may come</u> tomorrow. Continuous , e.g. He seems <u>to be thinking</u> about something important. I saw Peter <u>doing</u> his yoga exercises at the moment. Perfect, e.g. Adele is said <u>to have enjoyed</u> her summer vacation. He seems <u>to have thought</u> about it before.</p>
6	Стан	<p>Active, e.g. Marge has <u>to cook</u> all the meals herself. Passive, e.g. All the meals in the family have <u>to be cooked</u> by their mother.</p>

Окрім того, всі безособові форми дієслова мають подвійну природу, тобто поєднують в собі ознаки дієслова та ще однієї з частин мови – іменника, прикметника чи прислівника. Саме це поєднання і визначає, з яким з трьох видів безособових форм дієслова маємо справу – інфінітивом, дієприкметником, герундієм.

ІНФІНІТИВ THE INFINITIVE

Інфінітив – це безособова форма дієслова, яка тільки називає дію і відповідає на питання *що робити? що зробити?*

Інфінітив має властивості дієслова та іменника. У перекладацьких словниках дієслова подані саме у формі інфінітиву. А ще інфінітив вам відомий з таблиці неправильних дієслів, там він також займає першу колонку. Наприклад, *to be- was/were-been, to go-went-gone*, де слова *to be* та *to go* є інфінітивами.

Як і дієслово, інфінітив має форми активного і пасивного станів.

1.1. Форми інфінітива Forms of the Infinitive

	Active	Passive
Indefinite	to offer	to be offered
Continuous	to be offering	
Perfect	to have offered	to have been offered
Perfect Continuous	to have been offering	

Зверніть увагу, що перфектна форма виражає дію, що передує дії, вираженою дієсловом-присудком.

Головною ознакою інфінітива є частка **to**, з якою він вживається.

Наприклад:

To know is not to understand. Знати – не означає розуміти.

Проте, слід пам'ятати, що існують випадки використання інфінітива без частки **to**.

1.2. Інфінітив без частки to The Bare Infinitive

Після допоміжних дієслів	<i>I do not like</i> it. - Мені це не подобається. <i>We will do</i> it tomorrow. – Ми зробимо це завтра.
Після модальних дієслів, окрім ought	He can swim. – Він може плавати. We must be off. – Нам треба йти.
Після дієслів фізичного сприйняття в конструкціях «Складного додатку»	<i>I saw (heard) him come</i> . – Я бачив (чув), як він прийшов. <i>I felt my pulse quicken</i> . – Я відчув, як мій пульс почастишав.
Після дієслів Let – дозволяти, Make – у значенні «змушувати»	Let them speak. – Нехай говорять. She made me come back . – Вона змусила мене повернутися.

Після виразів had better, would rather, cannot but	I would rather visit Paris. – Я би радше відвідав Париж. I cannot but accept his suggestion. – Я не можу не прийняти його пропозицію.
Після посилювання з do	I do want to be a professional dancer in the future. – В майбутньому я дійсно хочу бути професійним танцюристом.

Від іменника інфінітив отримав здатність виконувати такі функції в реченні, які не притаманні дієслову, а притаманні іменнику.

1.3. Функції інфінітива в реченні Functions of the Infinitive

Підмет	To know the truth is our first duty. – Наш першочерговий обов'язок – знати правду.
Частина складеного іменного присудка	His intention is to win the Cup. – Він прагне виграти кубок.
Додаток	I like to speak English. – Мені подобається (що?) розмовляти англійською мовою.
Означення	He has a family to look after . – Він має сім'ю (яку?), про яку потрібно дбати.
Обставина	She came to say good – bye . – Вона прийшла (з якою метою?) попрощатись.
Частина складеного дієслівного присудка	It began to rain . – Почався дощ.

Read proverbs and sayings with the infinitive. Translate them into Ukrainian and explain.

- ✓ It is never too late to learn.
- ✓ Be slow to promise and quick to advise.
- ✓ It is easy to be wise after the event.
- ✓ By doing nothing we learn to do ill.
- ✓ Treat others as you would like to be treated.
- ✓ It is easy to bear misfortunes of others

1.1. Forms of the Infinitive

Exercise 1

Give the Passive Infinitive form of the verbs

Model: to build - to be built

To book, to make, to finish, to take, to sign, to publish, to borrow, to teach, to see, to speak, to write, to send, to study, to buy, to sell, to know, to consider.

Exercise 2

State the form of the infinitive. Translate the sentences:

- 1) **To take** him seriously would be absurd.
- 2) For a moment she appeared **to be hesitating**.
- 3) The sportsman seemed **to have gained** all he wanted.
- 4) Dinner was ready **to be served**.
- 5) He is sorry **to have offended** you.
- 6) She pretended **not to be listening**.
- 7) He claims **to have returned** the book to the library.
- 8) The letter seems **to have been mislaid**.
- 9) She happened **to have been enquiring** all this time whether all the invitations had been sent out.
- 10) She is curious **to know** the news.
- 11) It was unwise for him **to be so rude** to his colleagues.
- 12) The dog turned out **to have been waiting** for the master in the street all this time.
- 13) The box seems **to have been unpacked** by somebody.
- 14) They **seem to be happy** together.

Exercise 3

Open the brackets, using the Indefinite or Perfect Infinitive Passive in written form:

1. Children like (*to give*) presents.
2. The children are happy (*to give*) a lot of presents that day.
3. The boy usually didn't like (*to ask*) questions by teachers.
4. The boy says he doesn't like (*to ask*) many questions at the previous lesson.
5. He is always lucky (*to ask*) few questions at the exam.
6. We got surprised, that he was lucky (*to ask*) few questions and (*to get*) an excellent mark for the exam!
7. She is surprised (*to win*) the first prize! She didn't expect it!
8. She wasn't surprised (*to invite*) to their place so often.
They really liked her!
9. Is the actress pleased (*to interview*)?
10. The actress isn't pleased (*to interview*) by this man yesterday.
11. Little Jim didn't deserve (*to punish*) by his stepmother every day.
12. He didn't deserve (*to punish*) that day.
13. We have a lot of work (*to do*), don't we?
14. There are six letters (*to write*), hurry up!
15. Jim's father was looking for Jim, but he was nowhere (*to find*). His friends hid him.

Exercise 4

a) For each item, complete the question with a passive infinitive.

- a. On your second day of a new job, you are an hour late to work. (fire)
Would you expect *to be fired*?
- b. You have put off paying your phone bill for more than two months. (phone service / disconnect)

Would you expect _____?

c. Your son or daughter has been stopped for speeding.
(notify / by the police)

Would you expect _____?

d. You are going 10 miles over the speed limit.
(stop / by a police officer)

Would you expect _____?

e. Your English term paper was due three days ago.
(question / by your teacher)

Would you expect _____?

b) *Now work with a partner. Take turns asking and answering the questions.*

Example:

A: On your second day of a new job, you are an hour late to work. Would you expect to be fired?

B: No, I wouldn't expect to be fired. How about you?

Exercise 5

Translate into English paying attention to the Passive Infinitive

1. Я сподіваюсь, що стаття може бути закінчена сьогодні. 2. Ці підручники також можуть бути використані. 3. Я гадаю, що план має змінитися. 4. Слід закрити вікно. У кімнаті прохолодно. 5. Дітей слід вчити іноземним мовам у ранньому віці. 6. Багато чудових картин українських художників можна побачити в цьому музеї. 7. Квитки на літак необхідно замовляти заздалегідь.

Exercise 6

Use Indefinite Infinitive or Perfect Infinitive instead of the phrases in bold.

Model: He is sorry that he has said it. – He is sorry to have said it.

1. It is certain **that it will rain** if you don't take your umbrella.
2. Don't promise **that you will do it**, if you are not sure that you can.
3. He was very proud **that he had helped his elder brother**.
4. She was sorry **that she had missed the beginning of the concert**.
5. I am glad **that I see all my friends here**.
6. She is happy **that she has found such a nice place to live in**.
7. I will be delighted **if I can join you**.
8. He hopes **that he will know everything about it**.
9. I was lucky **that I had attended this concert**.
10. They were excited **that they had reached the city at last**.

Exercise 7

Write sentences on these topics, based on your own experience. Use the appropriate form of the infinitive.

1. An activity you stopped in order to do something else.
2. Something you didn't remember to do.
3. Something you are reluctant to do.
4. Something you have always been afraid to do.
5. Something you feel is wrong for people to do.

6. Something you expected to have happened before now.
7. A quality that you feel is important to have.
8. Something that you are happy to have experienced (use the past passive).

1.2. The Bare Infinitive

Exercise 8

Insert -to- where necessary. Comment on it.

1. Why not ____ apologize now?
2. You don't need ____ buy high heel shoes.
3. You needn't ____ buy rollerblades.
4. She'd better ____ tell him about the appointment.
5. He was seen ____ enter the language lab.
6. I saw him ____ enter the gym.
7. My suitcase is very heavy. I would rather ____ use the lift.
8. Be quiet – let me ____ concentrate on my homework.
9. I can't make up my mind whether ____ buy Porsche or a BMW.

Exercise 9

Insert the particle -to- where necessary. Comment on the use of the Bare Infinitive.

1. How can I ... help you ...do it?
2. It was impossible not ... recognize it.
3. But there had ... be some way out.
4. He couldn't ... let them ... get away with it.
5. It is better ... let events ...answer your question.
6. Why ...be so upset about the things of no importance?
7. I was really astonished when he bade me ...take his seat.
8. The bomb might ... be on the point of letting loose even now.
9. There was no way of telling when the threshold would ... be reached.
10. 'Come with me', said Jonti. 'I think you had better ... sit down too'.

Exercise 10

Put -to- where necessary before the infinitives. Comment on it.

1. The teacher made me _____repeat it all over again.
2. You needn't _____ask for permission, I let you _____ take my books whenever you like.
3. Will you help me _____move the table?
4. He is expected _____arrive in a few days.
5. You seem _____ know these places very well.
6. You had better _____make a note of it.
7. I heard the door ____open and saw a shadow __move across the floor.
8. He told me _____try _____ do it once again.
9. I'd rather _____walk a little before going to bed.
10. There is nothing _____do but _____wait till somebody comes ____ let us out.
11. You ought not _____ show your feelings.

12. Why not _____ wait a little longer?
13. I felt her _____ shiver with cold.
14. We should love you _____ stay with us.
15. You are not _____ mention this to anyone.
16. We got Mother _____ cut up some sandwiches.
17. Rose wanted them _____ stop laughing, wanted the curtain _____ come down.
18. I'll have _____ go there.
19. There doesn't seem _____ be anything wrong with you.
20. She helped me _____ get over my fear.
21. Look here, Jane, why _____ be so cross?
22. He was seen _____ make a note of it.
23. What made you _____ deceive me?
24. He was not able _____ explain anything.

Writing Activity 11

Write a story using at least 10 words taking infinitive with or without -to-.

1.3. Functions of the Infinitive

Exercise 12

Complete the following, using the infinitive

a) as subject:

1. ... would be unjust.
2. ... was very pleasant.
3. ... is the only thing to do.
4. ... would be much more useful.
5. ... is not an easy matter.

b) as predicative:

1. My hobby is
2. The best way to master a foreign language is
3. The next thing to be done is
4. Our aim was
5. To say so means
6. His only wish is

c) as object:

1. He asked
2. In the kindergarten children are taught
3. I am so glad
4. We are awfully sorry
5. The doctor advised
6. The child is afraid
7. I've clean forgotten
8. Everybody promised
9. Would you like ... ?
10. Who has allowed you ... ?

Exercise 13

Change the sentences according to the patterns and translate them

A I'm glad I've told you about that. – I'm glad to have told you about that.

1. I'm glad I've lent him the book. 2. He's sorry he's given up college. 3. She's glad she's bought a car. 4. He is happy he's apologized to her.

B The text's too long. It can't be translated today. The text's too long to be translated today.

1. The text's too difficult. It can't be translated without your help. 2. The theatre is too small. It can't house more than 220 people. 3. The work is too difficult. It can't be completed without Pete's help. 4. The novel is too difficult. It can't be read by first-year students.

C Is John a talented coach? (To consider). – Yes, I consider him (to be) a talented coach.

1. Is Jane a very good friend? (To consider). 2. Is he a good goalkeeper? (To find). 3. Is Mr. Mitchell a kind man? (To know). 4. Is Mary a promising painter? (To believe).

D Has John filled in the form? (To see). – Yes, I saw him fill it in.

1. Have they rehearsed the play yet? (To watch). 2. Did Peter agree to join them? (To hear). 3. Did Dr. Smith examine the documents? (To see). 4. Did they congratulate Jane on her success? (To hear).

E It is expected they will arrive tomorrow. – They're expected to arrive tomorrow.

1. It is expected Peter will achieve a record tomorrow. 2. It is known Mr. Evans will deal with the matter. 3. It is said Bill prefers boating to swimming. 4. It is believed Ann's son is a promising physicist.

Exercise 14

Combine the sentences using the words in brackets:

Model: Jane gave up smoking because she wanted to save money. (in order to) Jane gave up smoking **in order to** save money.

1. I turned up the radio. I wanted to listen to the news. (so that)
2. I came here so that I could see you. (in order to)
3. We put a fence. We want to prevent the rabbit escape. (in order to)
4. She went shopping so she could buy herself a television. (to)
5. I put the food in the fridge because I wanted it to get cold. (in order to)
6. Jane saved money. She wanted to buy a present for Harry. (in order to)
7. Harry left early because he didn't want to miss the bus. (in order not to)
8. The teacher tested the students. She wanted to see if they remembered the things they had learnt. (in order to)
9. He tried to hide the broken vase. He didn't want to be punished. (so that)

Exercise 15

Complete each sentence with a suitable verb and define the function of the infinitive.

Model: The teacher has the responsibility to help the learner feel successful.

to get/to be/to come/to turn/to travel/to take/to say/ to be/to take

1. I like _____ by snowmobile.
2. I left France never _____ back.
3. She's got enough patience _____ a teacher.
4. You use digital camera _____ photos under the water.
5. Remember _____ off the cooker before leaving.
6. Your angel will be waiting for you and will try _____ care of you.
7. Cross-country skiing seems _____ slower than downhill skiing.
8. I regret _____ you that there is no money left in your account.
9. Some people say that it is impossible _____ high results in sports without strong will-power.

Exercise 16

Use the Infinitive after adjective+enough

IN BRITAIN AT WHAT AGE CAN YOU...?		<i>Alice is 13. Mark is 16. Cathy is 17. John is 18. Liz is 21.</i>
When you are	you can	<i>John is old enough to drive a car.</i>
13	Work part-time	1. Alice.....part-time.
16	Leave home	2. Alice.....home.
16	Leave school	3. Mark.....school.
17	Drive a car	4. Cathy.....home.
18	Vote	5. Cathy.....vote.
18	Change your name	6. John.....his name.
21	Drive a bus	7. Liz.....a bus.

Exercise 17

Use the Infinitive after too+adjective

Model: I'm very sleepy. I can't drive. – I'm too sleepy to drive.

1. Helen is very ill. She can't work.
2. My grandfather is very old. She can't travel.
3. I'm very bored. I can't listen any longer.
4. Andrew is very hot. He can't play tennis.
5. I'm very hungry. I can't work.

LESSON 2
Text A
THE SILENT LANGUAGE WE CAN'T LIVE WITHOUT

Pre-reading activities

- 1. Read the title of the text. Give your suppositions what language it is. Why is it called "silent"?**
- 2. Have a look at the pairs of words and express your ideas about the context in which they may be used in the text: a handful of people – machine code, to be in demand – computer science courses, a translator- a compiler.**

While-reading activities

- 1. Read paragraph 1 and be ready to explain the parallel between English and programming language.**
- 2. Read paragraph 2 and find the correspondence between the types of the programming language and their characteristics.**

programming language	characteristics
1. Procedural Programming Languages	a) increase the reliability of the programs
2. Functional Programming Languages	b) have easy syntax and dynamic typing
3. Object-oriented Programming Languages	c) provide a set of instructions that the computer follows
4. Scripting Languages	d) have programs divided into functions or procedures
5. Logic Programming Languages	e) can encapsulate implementation components from the outside world
6. Imperative Programming	f) consists of a cluster of logical rules

3. Read paragraph 3 and find out if the following statements are true or false.

- a) Front-end languages are used to create virtual and interactive website elements that users can see.
- b) Back-end languages create logic and functionality behind the scenes of the website.
- c) High-level languages are difficult to understand.
- d) The interpreter and the compiler do the same work: execute and read the interpreted code line by line without compiling it into machine code.

What Is a Programming Language?

Let's start with the basics. For how advanced computers have become over the years, we still run into the same problem – that computers and humans don't speak the same language. Computers understand binary, a series of 0 (zeros) and 1 (ones). Programming languages serve as an intermediary between computers' ones and zeros and our human language. Imagine it like this: say, for example, you, a Ukrainian, wanted to communicate with a German woman, but neither of you spoke the other's respective language. However, then you realized you could both communicate by speaking English.

Once upon a time, the world of computer programming was a mysterious and exclusive place. Only a select handful of people were considered computer programmers with coding skills. Today, many IT jobs require a number of programmers as well as the top programming languages.

A programming language itself is a way for programmers (developers) to communicate with computers. Programming languages consist of a set of rules or set of instructions that allow generating machine code. One needs this machine code to achieve a particular task.

Although there are many computer languages, relatively few are widely used.

Major Types of Programming Languages

Procedural Programming Languages

A programming paradigm that uses procedures or functions to abbreviate and categorize the code into reusable blocks is a procedural programming language. C, Pascal and FORTRAN are the most in-demand programming languages supporting this paradigm.

In this programming, the program is divided into functions or procedures. These procedures can be called from other program parts, allowing for flexible programming and code reuse. The priority is the systematic execution of a program.

These are the best programming languages to learn as they are widely used in the fields like engineering, gaming and finance. Procedural programming can be less flexible though this does not stop it from being one of the most significant programming paradigms taught in high-ranking computer science courses.

Functional Programming Languages

Unlike procedural languages, functional programming languages are more flexible. It is composed of a series of functions. This programming paradigm stresses the use of model computations and data transformation. Haskell, Clojure, Lisp and Scala are the languages supporting this paradigm.

Functional programming makes increases the reliability of the programs. The functions solely operate on their input arguments. They are less popular, but they have experienced a colossal boom from the educational point of view. They are assigned to variables, passed as arguments to other functions and return results from other functions.

Functional programming is efficient parallel programming. They have no mutable state. You can program functions and in parallel work as instructions. These codes consist of independent units that run coherently. Hence, this is more efficient.

Object-oriented Programming Languages

In an object-oriented programming language, objects define the data and the behavior of objects. This language enables users to make a complex system with interconnected objects.

This language hides implementation components from the outside world through encapsulation. This makes it possible to build large intricate systems without stressing about the internal workings of respective objects. The other benefit that makes this language so in demand is the feature of inheritance. It creates a ranking of classes that share common features while still allowing customization.

Some popular object-oriented programming languages are Java, Python, C++, and Ruby. All these languages are top programming languages, but they share the principle of being object-oriented.

Scripting Languages

Simple to learn with easy syntax and dynamic typing, the scripting language is the type of language that is interpreted rather than compiled. The two types of this language are server-side scripting languages and client-side scripting languages. These languages make communication possible with other programming languages.

- **Python** - The easiest programming language used among developers is Python. It is an object-oriented programming language. The language has a high-Level data structure, and built-in libraries, that make it easy to use and suitable for rapid application development. It is easy, decoded and has a dynamic semantic language.
- **Perl** - The language is dynamic with innovative features that make it popular and different from what is available on Linux and Windows Server. Websites with high traffic usually use Perl, including IMDB, as it helps in text manipulation tasks.
- **Bash** - Bourne -Again, SHell is a scripting language that is the default command interpreter on most Linux operating systems. This language is easier than most of the other programming languages. Bash makes it easier to create script store documentation for others and provides useful reusable scripts.

Logic Programming Languages

Artificial intelligence and expert systems commonly use this language where reasoning and conjecture are required. This language allows a concise and expressive program which is easier to maintain than programs of other paradigms.

As the name suggests, this is computer programming based on formal logic. This programming language program consists of a cluster of logical rules that determine relationships among objects. It allows the system to extrapolate new information.

To summarize, logical programming is a secure and flexible approach to solving problems in computer programming. It is suitable for every type of problem. It is a valuable tool for a few applications as well. One of the most popular logical languages is Prolog which consists of a set of facts and rules to describe a problem and reason about it.

Imperative Programming

In imperative programming, the programmer provides a set of instructions that the computer follows. These instructions are used to manipulate the state of the

program and the information structure within it. C, C++, Java, and Python are some of the imperative programming languages,

The Imperative is the most popular programming language in software development for system programming and low-level programming tasks. The Imperative includes direct level control over hardware resources.

Other Ways to Classify Programming Languages

Front-end vs. Back-end Languages

Front-end languages are called client-side languages, which are used to create virtual and interactive website elements that users can see. The front-end languages include HTML, CSS and JavaScript.

Backend languages are known as server-side languages. They create logic and functionality behind the scenes of the website, like processing, storing and managing the user's account and authentication. Python, Ruby, and Java are some of the backend languages.

High-level vs. Low-level Languages

High-level languages are easy to read and write since they are understandable. Developers can write code at a higher level of abstraction without worrying about the underlying hardware or operating system, as it is close to natural languages. They have built-in libraries and frameworks to simplify ordinary programming tasks like executing calculations. Examples of high-level languages are Python, Java or Ruby.

On the other hand, level languages are much more complex to understand and write. The code written in languages is very efficient and directly manipulates the hardware and memory of the computer. Yet the developer needs to rely on manual efforts and understanding. Assembly language and C are examples of this type of language.

Interpreted vs. Compiled Languages

The interpreter directly executes and reads the interpreted code line by line without compiling it into machine code. It can be executed immediately without requiring separate compilation steps, such as Python, Ruby and JavaScript.

In contrast, the compiler first translates the compiled languages into machine code. Further converts the human-readable code into a structure that computers can execute. Languages like C, C++, and Java fall into this category.

Post-reading activities

- 1. Prepare several variants of the definition and description of the notion of programming languages depending on the person you are going to give them to. Let them be a 7-year child, an aborigine, smb's great-grandparents, your teacher of English.**
- 2. Choose any of the programming languages mentioned in the text and prepare a short report about it. You may take information not only from Text A but also from Internet. Make your report easy and interesting for comprehension. Use short sentences and avoid complicated structures. It may consist of 3-4 paragraphs, the contents are of your choice.**

LESSON 2

Text B

IF YOU WANT TO BECOME A PROGRAMMER

Pre-reading activities

The profession of a programmer is one of the modern ones. As any profession in the world it deserves special attention from the point of view of features and characteristics a person should have to become a programmer. Split into pairs and discuss with your partner why the following abilities for the future programmers are required:

- ✓ Ability of finding interconnections between objects
- ✓ Ability of organizing your time and activities
- ✓ Ability of finding common language with different types of people
- ✓ Ability of fulfilling your job on time
- ✓ Ability of transforming ideas into images
- ✓ Capability to exact sciences
- ✓ Degree of knowing foreign languages
- ✓ Ability of solving puzzles, quizzes, finding logical connections
- ✓ Ability of fulfilling creative tasks
- ✓ Ability of easy communication with a stranger

1. **Even if your traits of character allow you to choose this profession it is not the final point on your way of becoming a programmer. Further you need to choose what programming language to learn. What in your opinion are the main factors that influence your choice of language? Share your ideas with your groupmates.**
2. **In this text you will encounter the following word – “Rumpelstiltskin”. This is a proper name. Express your idea who or what it can be. Check the information in Wikipedia.**

While-reading activities

1. **When reading paragraph 1 make notes of what factors play a significant role in the decision of what programming languages to learn.**
2. **When reading paragraph 2 make a list of professions and find specific skills needed for them. Also make a conclusion what programming languages are the most popular and necessary to be learned.**
3. **When reading the analyses of pros and cons of the programming languages pay attention to information which was new for you. Ask your groupmates if it was new for them too. You may begin your question in such ways:” Did you know that...?” or “Was the information about ... new for you?”**

What Programming Language Should You Learn?

What would you say if you had to guess how many programming languages are out there? Twenty? Two hundred?

According to the Online Historical Encyclopaedia of Programming Languages, there are actually about 8,945 coding languages. Many of these, though, are either not used very often or only in very specific contexts.

A candidate should be up-to-date with new languages. Though, other factors play a significant role in the decision of what programming languages to learn.

- Firstly, one needs to understand their goals and what career one wants to pursue after learning the programming language.
- Next, conduct thorough market research and narrow down the field you want to enter.
- After that, you need to understand the industry demand and the job portfolio of the desired profession. Learn the skills and languages that are demanded in the chosen field.
- You might want to start one of the easiest programming languages. Python and Ruby are great languages to begin with.
- Look for simply available material where you can learn quickly. Join communities and network with people at the top level of the field.
- Lastly, keep reinventing and learning as the market is constantly changing.

What Are the Best Programming Languages to Learn at present?

To help you in analyzing and choosing the programming languages you will study, check out a breakdown of some of the most popular jobs and their associated skills.

Web Developer

Web developers create and maintain websites. Front-end web developers work at the part of a website that is user-facing, including a site's design and usability. Back-end web developers handle all of the parts that you do not see, including data storage and security.

The most important languages for front-end web developers: CSS, JavaScript, HTML. The most important languages for back-end web developers: Python, Java, Ruby, JavaScript.

Data Scientist

Data is the new digital currency, and data scientists are the modern-day Rumpelstiltskin spinning data into gold. They figure out which questions need answering and how to find the information to answer those questions. They often work with statistics, machine learning, and data visualization.

The most important languages for data scientists: Python, SQL, R, JavaScript, Java.

Software Engineer

Software engineers identify user needs and then design, implement, test, and maintain software programs. This can include commercially available software, daily and industry software. They need a strong knowledge of programming languages, computer operating systems, and software development.

The most important languages for software engineers: Java, Python, C++, Scala.

Mobile App Developer

Mobile app developers create, develop, and maintain applications for mobile devices such as phones and tablets. This means that they often work with either iOS or Android. They assess and meet customer needs, fix bugs, and create clean, easy-to-use, and understandable code.

The most important languages for mobile app developers: Java, Swift, JavaScript.

It is also necessary to note that each programming language has its pluses and minuses if considering the degree of difficulty in learning, usage, differences in their flexibility, complexity, scalability etc. The information below will help you to compare

some of the main pros and cons of the 10 most in-demand programming and coding languages.

Pros and Cons

Name of Language	Pros	Cons
Java	It's reasonably straightforward, simple, and easy to learn.	Java is slow to program in and can be cumbersome.
Python	It is one of the more accessible and flexible languages to learn.	Python requires a lot of memory and can be slower than other options.
JavaScript	It is faster and easier to use than many other languages and has various interfaces.	It has poor client-side security and can be hard to debug.
PHP	PHP comes with built-in database connections and powerful library support.	It's not one of the easier languages to use and has some security issues.
SQL	Its commands and keywords are all basic English words, like SELECT, UPDATE, and INSERT INTO.	It comes with a fairly difficult-to-use and complex interface.
Ruby	When combined with Rails, Ruby becomes fast and easy to use and requires less code than other languages.	It strictly follows standards and paradigms, making Ruby slow but much more flexible than other languages.
C++	It can run on any platform, is a multi-paradigm language, and has a wide variety of uses.	It is difficult to master and slow to write.
C#	It is much faster to code and has higher scalability.	C# needs to be compiled after every change, making it slower and clunkier to use.
Swift	This language is user-friendly, has a simplified syntax, and is both fast and secure.	It is a newer language, so it has fewer support options .
R	R is growing in popularity for machine learning and data management.	R is a complicated language with a steep learning curve.

Post-reading activities

- 1. Taking into consideration the contents of the text and your own experience write an essay on the topic” The most popular programming languages which are necessary to be learned”.**
- 2. Among the suggested jobs choose the one for your friend and prove with your arguments (personal features, present skills, his/her goals etc.) that it is the most suitable job for him/her. You may suggest your own variant of a job in the sphere of programming as well.**

ДІЄПРИКМЕТНИК PARTICIPLE

Дієприкметник - це безособова форма дієслова, що має властивості дієслова, прикметника і прислівника. Відповідає на питання *який? як? що роблячи? що зробивши?*

В англійській мові не існує окремо дієприкметника і окремо дієприслівника. Англійський дієприкметник поєднує в собі ознаки українського дієприкметника і українського дієприслівника. Все залежить від конкретного випадку вживання Participle. Наприклад:

He smiled (when? how?) **reading** a book. - Він усміхнувся (коли? як?), читаючи книжку (дієприслівник).

The (what kind of?) **reading** man smiled. - Чоловік (який?), що читав книжку, посміхнувся (дієприкметник).

В англійській мові є дієприкметник теперішнього часу (Present Participle або Participle I) і дієприкметник минулого часу (Past Participle або Participle II).

2.1 Утворення дієприкметників

Дієприкметник теперішнього часу Present Participle / Participle I

	Основа дієслова + ing
play	playing - той, що грає, граючи
stop	stopping - той, що зупиняє,
tie	зупиняючи
give	tying - той, що прив'язує,
sell	прив'язуючи
	giving - той, що дає, даючи
	selling - той, що продає, продаючи

Дієприкметник минулого часу Past Participle / Participle II

Для правильних дієслів: основа + ed	
Play	played – зіграний
Stop	stopped – зупинений
tie	tied – прив'язаний
Для неправильних дієслів: III форма в таблиці	
Give	given – даний
Sell	sold – який продається, проданий
begin	begun – який почався, розпочатий

Дієприкметник теперішнього часу (Present Participle / Participle I) має різні форми в залежності від стану (активний чи пасивний) та від співвідношення в часі дії, яку він виражає, до дії, вираженої основним дієсловом.

2.2 Форми дієприкметників теперішнього часу

Активний стан Active voice	Пасивний стан Passive voice
<i>Неозначена форма</i>	
playing writing Playing cricket you hit the ball with a bat. – Граючи в крикет, ви б'єте м'яч бітою.	being played being written Being played by two groups of people, cricket is a team game. – Оскільки в крикет грають дві групи людей, це командна гра.
<i>Перфектна форма</i>	
having played having written Having played the first set he broke his racket. – Відігравши перший сет, він зламав ракетку.	having been played having been written Having been played all over England cricket became a national English game. – Оскільки в крикет грали по всій Англії, він став національною грою.

Неозначена форма вживається для вираження дії одночасної з дією, вираженою дієсловом-присудком; безвідносно до якогось певного часу; майбутньої дії по відношенню до дії, вираженої дієсловом-присудком.

Перфектна форма виражає дію, що передує дії, вираженою дієсловом-присудком

Оскільки дієприкметник в англійській мові має ознаки як прикметника, так і прислівника, то і в реченні може виконувати відповідно функції означення і обставини.

2.3 Функції дієприкметника в реченні

Означення	The playing boy is my brother. – Хлопчик, (який?) який грає - мій брат. The boy playing in the field is my brother. – Хлопчик (який?), що грає на полі - мій брат.
Обставина	Playing cricket two teams hit the ball in turn. – (як?) Граючи в крикет, дві команди закидали м'яч по черзі. Having won the first game, they left the field talking and laughing. – (коли? як?) Вигравши перший гейм, вони пішли з поля, розмовляючи і сміючись.
Частина складеного присудка (займенник («me», «her», «them», «you» etc.) / іменник + Participle I)	I saw him crossing the street. – Я бачив, як він переходив вулицю.

2.2 Forms of the Participle

Exercise 1

State the form of Participle I. Translate the sentences:

- 1) **Judging** him by his figure and movements, he was still young. (*Collins*)
- 2) **Having traversed** seven hundred miles, he was now travelling toward the border of the USA. (*Horgan*)
- 3) **Placing** his drink upon the mantelpiece, the ex-convict stood for a moment, **observing** the young man out of the corner of his eye. (*Cronin*)
- 4) **Being** very **tired** with his walk, however, he soon fell asleep and forgot his troubles. (*Dickens*)
- 5) **Having shaken** hands with them, he brought his own hands together with a sharp slap. (*Priestley*)
- 6) Manuel went in, **carrying** his suitcase. (*Hemingway*)
- 7) I am going to Rome, **having** friends there. (*Dickens*)
- 8) While **pondering** this problem, I sat in the dormitory window-seat. (*Ch. Bronte*)
- 9) There was sunlight **coming** in through the shutters. (*Hemingway*)
- 10) Abraham appeared at noon the next day, **bringing** with him two hundred dollars in cash. (*Stone*)
- 11) Much of the afternoon I looked out of the window, as though **thinking**, but not really **thinking**. (*Snow*)
- 12) Cecilia had heard very little, **being absorbed** in her own reflections. (*Crawford*)
- 13) He looked at his father **listening** with a kind of painful desperation. (*Cronin*)
- 14) **Never having encouraged** friends to drop in spontaneously, she was almost totally alone. (*Stone*)
- 15) A cold wind swept the pavement, **bearing** a scrap of silver paper from a chocolate box across the lamp-light. (*Greene*)

Exercise 2

Use the appropriate form of the participle instead of the finite form of the verb.

Model: *When he arrived at the railway station*, he bought a ticket, walked to the platform and boarded the train.

Arriving at the railway station, he bought a ticket, walked to the platform and boarded the train.

1) *As he was promised help*, he felt quieter.

2) He *poured out a cup of coffee*, sat down in an armchair and looked at the woman *who was sitting opposite him*.

3) *When he had left the house*, he suddenly stopped *as he remembered* that he had forgotten to phone his friend.

4) He looked at me and hesitated: *he did not know what to say*.

5) *As he had long lived in those parts and knew the place very well*, he easily found his way to the market-place.

6) He has no language problems, *because he has been studying English for a long time*.

Exercise 3

Continue the chain, making up your own examples (use Participle I Indefinite or Perfect Active):

1) Walking about the city, I met my old friends.

2) Meeting my old friends, I was really glad.

3) Being glad, I shook hands with them.

4) Having shaken hands with each other, we decided to walk together and to have a talk.

5) Walking together,...

Exercise 4

Translate into Ukrainian, paying attention to Participle II:

1) For a moment the trio stood as if turned to stone. (*Murdoch*)

2) He looked at her for a moment as though amazed at her friendliness. (*Greene*)

3) He bowed low when presented to Dinny. (*Galsworthy*)

4) Displeased and uncertain Brande gazed from his son to the Spanish gardener. (*Cronin*)

5) With closed eyes he leaned back on the bench. (*Baum*)

6) Prepared, then for any consequences, I formed a project. (*Ch. Bronte*)

7) We walked down the hall and down the wide thickly carpeted stairs. (*Hemingway*)

Exercise 5

Open the brackets using Participle I or Participle II.

1. (to read) the story, she closed the book and put it on the shelf.

2. (to buy) some fruit and cakes, we went home.
3. (to sit) near the fire, he felt very warm.
4. (to sell) fruit, he looked back from time to time, hoping to see his friends.
5. (to sell) his fruit, he went to see his friends.
6. (to write) out and (to learn) all the new words, he was able to translate the text easily.
7. (to look) through some magazines, I came across an interesting article about UFOs.
8. (to do) homework he was thinking hard.
9. (to do) homework he went for a walk.
10. (return) from their day's outing, they found dinner ...(to serve).

Exercise 6

Choose the correct form of the Participles.

1. a) I found the book (boring, bored).
b) I got (boring, bored) with staring out of the window.
2. a) The girl (washing, washed) the floor is my cousin.
b) The dishes (washing washed) by Maria looked very clean.
3. a) Who is that boy (driving, driven) a BMW?
b) The car (buying, bought) by Sarah was not expensive.
4. a) Our hall of residence (surrounding, surrounded) by tall trees is not far from park 'Sofiyivka'.
b) The trees (surrounding, surrounded) the hall were very high.
5. a) The boy (reading, read) a booklet is my nephew.
b) The brochure (reading, read) by Paul is quite attractive.
6. a) The door (locked, locking) by him was brown.
b) (Locking, locked) the door he forgot to walk his dog.
7. a) The most (exciting, excited) time he has ever had was when he went to the Congo jungle.
b) I was (exciting, excited) by her new idea.
8. a) We could hear the noise of furniture ...(moving, moved) upstairs.
b) For a moment they sat silent ...(being moved, moved) by the story.
9. a) When ...(telling, told) the story, we listened to it breathlessly.
b) I can't forget the story ...(telling, told) by the old man.
10. a) (stealing, stolen) valuables and cash worth \$500,000.
b) He robbed a bank, ... (stealing, stolen) cash which are worth \$500,000.

Exercise 7

Translate the sentences into Ukrainian. Additionally try to define the function of the participle. (It may be used as an attribute, adverbial modifier, part of a compound verbal predicate)

A. Present Participle (Participle I) Active/Passive

1. He looked at the smiling children.
2. The large house being built in our street is a new school.
3. When playing tennis he slipped and broke his leg.
4. Entering the room he saw a letter on his desk.
5. John looked out of the window while waiting for her answer.
6. He did not say a word, again looking at his hands.
7. Not being able to read or think she phoned her brother and asked him to come.
8. Being packed in strong cases, the goods arrived in good condition.

B. Past Participle (Participle II)

1. The teacher asked the students to read the sentences written on the blackboard.
2. The problem discussed at the meeting yesterday is very important.
3. The girl stopped before the closed door.
4. Squeezed by the ice the steamer could not continue her way.
5. Asked whether he would return soon, he answered that he didn't know.
6. The stone is thrown.

C. Perfect Participle Active/Passive

1. They were old friends having been at school together.
2. Having closed the sitting-room door, she sat down in the armchair.
3. Having never been to Canada myself, I listened to him with great interest.
4. Having been sent to the wrong address, the letter didn't reach him.
5. Having been dried and sorted, the goods were placed in a warehouse.

Exercise 8

Open the brackets using the correct form of the Participle. Do not mix these:

interested spectators – (зацікавлені глядачі)

excited children – (схвильовані діти)

bored students – (студенти, яким нудно)

interesting films - (цікаві фільми)

exciting games - (ігри, що збуджують)

boring lessons - (нудні уроки)

1. After hearing the (frighten) tale the (frighten) children wouldn't go to sleep.
2. Nothing can save the (sink) ship now, all we can do is to try and save the passengers.

3. I don't know what was in the (burn) letter, I didn't read it.
4. Why do you look so (worry)? – I have had a number of (worry) telephone calls lately.
5. A crowd of (excite) people were watching the firemen trying to save the (burn) building.

Exercise 9

Translate into English using Participle I

1. Літак, що летить. 2. Сонце, що сідає. 3. Чоловік, який сидить за столом.
4. Жінка, яка варить обід. 5. Студенти, які вивчають англійську мову. 6. Дитина, що спить. 7. Чоловік, що веде машину. 8. Хлопчик, що біжить. 9. Люди, що купують фрукти та овочі.

Translate into English using Participle II

1. Мова, яку вивчають студенти. 2. Машина, яку веде спортсмен. 3. Приготований обід. 4. Текст, перекладений студентами. 5. Написана програма. 6. Лист, який одержав мій друг. 7. Зруйнований будинок. 8. Фрукти, куплені у цьому магазині.

2.3 Functions of the Participle

Exercise 10

Change attributive clauses by Participle I in the function of an attribute

Model.: All the people who live in this house are students.

All the people living in this house are students.

- 1) The man *who is speaking* now is our new secretary.
- 2) The apparatus *that stands on the table in the corner of the laboratory* is quite new.
- 3) The young man *who helps the professor in his experiments* studies at an evening school for laboratory workers.
- 4) People *who take books from the library* must return them in time.
- 5) There are many pupils in our class *who take part in all kinds of extra-curricular activities.*

Exercise 11

Change the clauses by the participle. State the function.

Model: As he now felt more at ease, the man spoke in a louder voice.

Feeling more at ease, the man spoke in a louder voice.

- 1) *Since he knew who the man was*, Paul was very pleased to have the chance of talking to him.
- 2) *As he thought that it was his brother in the car*, he decided to call him.
- 3) *As the people were afraid of falling into a ditch at any moment*, they felt their way about very carefully.
- 4) *Since he needed a shelter for the night*, Peter decided to go to the neighbours' house.

5) The policeman came up to a man *who was sleeping on the bench*.

Exercise 12

Change the clauses by the participle. State the function:

Model: *When you speak English, pay attention to the order of words.*

Speaking English, pay attention to the order of words.

- 1) Suddenly *the man who was speaking English* looked at me.
- 2) *When you leave the room*, don't forget to switch off the light.
- 3) *When you begin to work with the dictionary*, don't forget my instructions.
- 4) All admired the girl, *who was singing on the stage*.
- 5) Nobody listened to the man, *who was telling anecdotes*.
- 6) You must have much practice *when you learn to speak a foreign language*.

LESSON 3

Text A

WHAT IS ARTIFICIAL INTELLIGENCE

Pre-text activities

1. What does the term “artificial” mean? What synonyms of this notion can you name? Think of some examples of artificial objects.

2. You will encounter such proper names in the text: Siri, Alexa, Data, Deep Blue, Kasparov, Turing. Share information with your groupmates if you know who they are or what they are.

3. What associations do you have when you hear the phrase “artificial intelligence”? Read the text and find out if your suppositions are true to life.

While –reading activities

1. Read paragraph 1 called “Artificial Intelligence”. Work in pairs and discuss what cognitive functions of human beings can be performed by AI machines. What are the goals of AI? Are all types of AI machines supervised by humans?

2. Read paragraph 2 called “Strong and weak intelligence”. While reading try to point out the main, principle difference between weak and strong AI.

3. Read paragraph 3 called “The four categories of Artificial Intelligence”. Make notes about its types, their abilities, characteristics, examples. You may gather information in the suggested table drawn in your exercise-book.

	type	abilities	characteristics	examples
1				
2				
3				
4				

4. While reading paragraph 4 “ Pluses and Minuses” of AI pay attention to those which you could not even think of, the most unexpected or surprising.

Artificial intelligence

When most people hear the term artificial intelligence, the first thing they usually think of is robots. That's because big-budget films and novels present stories about human-like machines that destroy Earth. But nothing could be further from the truth.

Artificial intelligence is based on the principle that a machine can easily mimic human intelligence and execute tasks, from the most simple to those that are even more complex. Researchers and developers in the field have surprisingly rapid success in mimicking activities such as learning, reasoning, and perception. Some believe that innovators may soon be able to develop systems that exceed the capacity of humans to learn. But others remain skeptical because all cognitive activity is subject only to human experience.

Artificial intelligence (AI) is a wide-ranging branch of computer science concerned with building smart machines. These machines are able to perform tasks that typically need human intelligence. Artificial intelligence allows machines to model, or even improve upon, the capabilities of the human mind. And from the development of self-driving cars to the appearance of smart assistants like Siri and Alexa, AI is increasingly becoming part of everyday life – and an area companies across every industry are investing in.

The goals of artificial intelligence include computer-enhanced learning, reasoning, and perception.

The ideal characteristic of artificial intelligence is its ability to rationalize and take actions that have the best chance of achieving a specific goal. One of the spheres of artificial intelligence is machine learning (ML). It refers to the concept that computer programs can automatically learn from and adapt to new data without being assisted by humans.

Broadly speaking, artificially intelligent systems can perform tasks alike human cognitive functions – such as interpreting speech, playing games and identifying patterns. They typically learn how to do so by processing massive amounts of data, looking for patterns to model in their own decision-making. In many cases, humans will supervise an AI's learning process, reinforcing good decisions and discouraging bad ones. But some AI systems are designed to learn without supervision – for instance, by playing a video game over and over until they eventually figure out the rules and how to win.

Strong and weak intelligence

Artificial intelligence can be divided into two different categories: weak and strong .

Weak AI, sometimes referred to as narrow AI or specialized AI, operates within a limited context and is a simulation of human intelligence applied to one particular job or problem (transcribing human speech or curating content on a website).

Weak AI focuses on performing this or that single task extremely well.

Weak AI examples include: Siri, Alexa and other smart assistants which answer your questions, self-driving cars, google search, conversational bots, e-mail spam filters, Netflix's recommendations.

In contrast to weak AI, strong AI represents a machine with a full set of cognitive abilities.

Strong artificial intelligence systems are systems that carry on the tasks they have never been trained to work on – much human-like. These tend to be more complex and complicated systems. They are programmed to handle situations in which they may be required to problem solve without having a person intervene. These kinds of systems can be found in applications like self-driving cars or in hospital operating rooms.

This is the kind of AI we see in movies, like the robots from Westworld or the character Data from Star Trek: The Next Generation. This type of AI doesn't actually exist yet.

And some believe strong AI research should be limited, due to the potential risks of creating a powerful AI without appropriate guardrails.

The four categories of Artificial Intelligence

AI can be divided into **four categories**, based on the type and complexity of the tasks a system is able to perform. They are: reactive machines, limited memory, theory of mind, self-awareness.

Reactive AI uses algorithms to optimize outputs based on a set of inputs. Chess-playing AIs, for example, are reactive systems that optimize the best strategy to win the game. Reactive AI tends to be fairly static, unable to learn or adapt to new situations. A reactive machine cannot store a memory and, as a result, cannot rely on past experiences to inform decision making in real time. This type of AI will be more trustworthy and reliable, and it will react the same way to the same stimuli every time.

Deep Blue is a bright example of reactive AI . It was designed by IBM in the 1990s as a chess-playing supercomputer and defeated international grandmaster Gary Kasparov in a game. Deep Blue was only capable of identifying the pieces on a chess board and knowing how each moves based on the rules of chess, acknowledging each piece's present position and determining what the most logical move would be at that moment. Every turn was viewed as its own reality, separate from any other movement that was made beforehand.

Limited memory AI can adapt to past experience or update itself based on new observations or data. Often, the amount of updating is limited (hence the name), and the length of memory is relatively short. Autonomous vehicles, for example, can "read the road" and adapt to novel situations, even "learning" from past experience. Limited memory AI is more complex and presents greater possibilities than reactive machines.

Theory-of-mind AI are fully-adaptive and have an extensive ability to learn and retain past experiences. In terms of AI machines, this would mean that AI could comprehend how humans, animals and other machines feel and make decisions through self-reflection and determination, and then utilize that information to make decisions of their own. These types of AI include advanced chat-bots that could pass

the Turing Test, fooling a person into believing the AI was a human being. While advanced and impressive, these AI are not self-aware.

Theory of mind is just that – theoretical. We have not yet achieved the technological and scientific capabilities necessary to reach this next level of AI.

Self-aware AI, as the name suggests, become aware of their own existence. This kind of AI possesses human-level consciousness and understands its own existence in the world, as well as the presence and emotional state of others. It would be able to understand what others may need based on not just *what* they communicate to them but *how* they communicate it

Still some experts believe that an AI will never become conscious or "alive".

Every invention has pluses and minuses. AI machines are not an exception.

Judging by the present state of AI development it is possible to point out the following **advantages and disadvantages**. First let's pay attention to its pluses.

a) Good at *detail-oriented* jobs. AI has proven to be as good or better than doctors at diagnosing certain cancers, including breast cancer and melanoma.

b) Reduced time for *data-heavy tasks*. AI is widely used in data-heavy industries, including banking and securities, pharma and insurance, to reduce the time it takes to analyze big data sets.

c) *Saves labor and increases productivity*. An example here is the use of warehouse automation, which grew during the pandemic and is expected to increase with the integration of AI and machine learning.

d) *Delivers consistent results*. The best AI translation tools deliver high levels of consistency, offering even small businesses the ability to reach customers in their native language.

e) Can improve customer satisfaction through *personalization*. AI can personalize content, messaging, ads, recommendations and websites to individual customers.

f) AI-powered virtual agents are *always available*. AI programs do not need to sleep or take breaks, providing 24/7 service.

Still the minuses are also present. Here they are:

a) Expensive.

b) Requires deep technical expertise.

c) Limited supply of qualified workers to build AI tools.

d) Reflects the biases of its training data, at scale.

e) Lack of ability to generalize from one task to another.

f) Eliminates human jobs, increasing unemployment rates.

Whatever humanity thinks of it, AI has its past, present and will have future for sure.

Post-reading activities

1. Test your groupmates' understanding of the text with short- answer or true/false questions. You may choose one paragraph or make up questions on the plot of the whole text.

2. Get ready to having a discussion on the topic: "The idea of creating artificial intelligence. Was it a necessity or a kind of entertainment?"

3. Choose one paragraph of the text. Look it thoroughly through and write out all infinitives, participles, gerunds. Ask your groupmates to illustrate some words in their context.

infinitives	participles	gerunds
To reduce (зменшувати)	Limited memory (обмежена пам'ять)	Risks of creating (ризики створення)
	Including securities (включаючи безпеку)	

4. Do additional task on p. 75. Read the text about Turing Award, grasp the main information from it and share it with your groupmates.

LESSON 3
Text B
UNDERSTANDING AI: IS IT GOOD OR EVIL?

Pre-reading activities

- 1. Just concentrate for a minute and try to name all spheres you presume AI may be used in. Can you recollect any examples of you personally using AI technology?**
- 2. As you know already attitude towards AI is controversial. In 2021 the Pew Research Center asked Americans about their attitude toward AI. People expressed their excitement or concern as for this topic. What was the prevailing attitude in your opinion – excitement or concern? Express your suppositions.**

While-reading activities

- 1. Read paragraph 1 which tells about the already existing examples of AI. You may be surprised that some things or services you use are the forms of AI. Be attentive and tick them out.**
- 2. Read paragraph 2 and find out what the real results of the poll were. Compare with your suppositions.**

Artificial Intelligence Examples

AI is used extensively across a range of applications today. AI is continuously evolving to benefit many different industries. Machines are wired using a cross-disciplinary approach based on mathematics, computer science, linguistics, psychology, and more.

The applications for artificial intelligence are endless. The technology can be applied to many different sectors and industries.

Artificial intelligence also has applications in the *financial industry*, where it is used to detect and flag activity in banking and finance such as unusual debit card usage and large account deposits—all of which help a bank's fraud department. Applications for AI are also being used to help streamline and make *trading* easier. This is done by making supply, demand, and pricing of securities easier to estimate.

Artificial intelligence technology takes many forms. The below examples illustrate the breadth of potential AI applications.

Chat GPT is an artificial intelligence *chatbot* capable of producing written content in a range of formats, from essays to code and answers to simple questions. Launched in November 2022 by Open AI, it rapidly gained in popularity with millions of users. Chat GPT is powered by a large language model that allows it to closely emulate human writing. Chat GPT is considered a Weak AI, but it's not strictly reactive and can respond creatively to a wide variety of topics.

In *healthcare* settings, AI is used to assist in diagnostics. AI is being tested and used in the healthcare industry for suggesting drug dosages, identifying treatments, and for aiding in surgical procedures in the operating room. AI is very good at identifying small anomalies in scans and can better triangulate diagnoses from a patient's symptoms and vitals. AI is also used to classify patients, maintain and track

medical records, and deal with health insurance claims. Future innovations are thought to include AI-assisted robotic surgery, virtual nurses or doctors, and collaborative clinical judgment.

Google Maps use location data from smartphones, as well as information received from users about car accidents, to monitor the ebb and flow of traffic and choose the fastest route.

Personal assistants like Siri, Alexa and Cortana use natural language processing, or NLP, to receive instructions from users to set reminders, search for online information and control the lights in people's homes. In many cases, these assistants are designed to learn a user's preferences and improve their experience over time with better suggestions.

Snapchat filters use ML algorithms to distinguish between an image's subject and the background, track facial movements and adjust the image on the screen based on what the user is doing.

Self-driving cars are a recognizable example of deep learning, since they use deep neural networks to detect objects around them, determine their distance from other cars, identify traffic signals, account for all external data and compute it to act in a way that prevents a collision.

The **wearable sensors** and devices used in the healthcare industry also apply deep learning to assess the health condition of the patient, including their blood sugar levels, blood pressure and heart rate. They can also derive patterns from a patient's prior medical data and use that to anticipate any future health conditions.

MuZero, a computer program created by DeepMind, is a promising frontrunner in the quest to achieve true artificial general intelligence. It has managed to master games it has not even been taught to play, including chess and an entire suite of Atari games, through brute force, playing games millions of times.

Special Considerations

Since its beginning, artificial intelligence has come under scrutiny from scientists and the public alike. One common theme is the idea that machines will become so highly developed that humans will not be able to keep up and they will take off on their own.

Another is that machines can hack into people's privacy and even be weaponized. Other arguments debate the ethics of artificial intelligence and whether intelligent systems such as robots should be treated with the same rights as humans.

Self-driving cars have been fairly controversial as their machines tend to be designed for the lowest possible risk and the least casualties. If presented with a scenario of colliding with one person or another at the same time, these cars would calculate the option that would cause the least amount of damage.

The Pew Research Center surveyed 10,260 Americans in 2021 on their attitudes toward AI. The results found 45 percent of respondents are equally excited and concerned, and 37 percent are more concerned than excited. Additionally, more than 40 percent of respondents said they considered driverless cars to be bad for society. Yet the idea of using AI to identify the spread of false information on social media was more well received, with close to 40 percent of those surveyed labeling it a good idea.

AI is a boon for improving productivity and efficiency while at the same time reducing the potential for human error. But there are also some disadvantages, like development costs and the possibility for automated machines to replace human jobs. With many industries looking to automate certain jobs through the use of intelligent machinery, there is a concern that people would be pushed out of the workforce. Self-driving cars may remove the need for taxis and car-share programs, while manufacturers may easily replace human labor with machines, making people's skills obsolete.

It's worth noting, however, that the artificial intelligence industry stands to create jobs, too – some of which have not even been invented yet.

Post-reading activities

1. Share with your groupmates what you have learned from paragraph 1. Have you found any examples of AI which are present in your everyday life?
2. Split into two groups according to the principle of either approval or disapproval of AI existence. Give your reasons for thinking so.
3. Look through the text and find some participles and gerunds. Give the context in which they are used.

ГЕРУНДІЙ THE GERUND

Герундій – це безособова форма дієслова, що має властивості дієслова та іменника. Утворюється герундій додаванням закінчення **-ing** до основної форми дієслова.

Як і дієслово, герундій називає дію, вживається в активному і пасивному станах. Форми герундія збігаються з відповідними формами Present Perfect.

3.1 Форми герундія The Forms of the Gerund

Активний стан Active voice	Пасивний стан Passive voice
<i>Неозначена форма</i>	
writing	being written
<i>Перфектна форма</i>	
having written	having been written

Але при цьому володіє якостями іменника. Герундій так само, як і іменник, можна замінювати на **it**. Наприклад, Do you like **reading**? I like **it** very much.

У зв'язку з тим, що герундій володіє якостями дієслова й іменника, його можна вживати у функції практично будь-якого члена речення.

3.2 Функції герундія в реченні The Functions of the Gerund in the Sentence

Підмет	Playing football is his favourite sport. – Гра у футбол – його улюблений вид спорту.
Іменна частина складеного присудку	Her greatest pleasure was travelling . – Її найбільшою насолодою було подорожувати.
Додаток	He mentioned having seen this film before. – Він пригадав, що бачив цей фільм раніше.
Означення	We discussed different methods of teaching foreign languages. – Ми обговорювали різні методи викладання іноземних мов.
Обставина	The day was spent on packing . День витрачено на пакування речей.

3.3 Різниця у вживанні герундія і інфінітива The Difference between the Use of the Gerund and the Infinitive

Герундій та інфінітив можуть вживатися після однакових дієслів, при цьому значення речень буде різне. Розгляньте таблицю.

	GERUND	INFINITIVE
1.	to be afraid, to forget, love, to hate, to (dis)like, like, to prefer - у загальних твердженнях <i>e.g. I hate listening to long stories.</i>	- в особливих ситуаціях <i>e.g. I hate to listen to his silly story now.</i>
2.	to remember - посилення на минуле <i>e.g. I remember buying some bread on the way home. – Я пам'ятаю, що купила хліб по дорозі додому.</i>	- посилення на майбутнє і саме дієслово перекладається як НЕ ЗАБУДЬ <i>e.g. Remember to buy some bread on the way home. – Не забудь купити хліба по дорозі додому.</i>
3.	to stop - як частина складеного дієслівного присудка <i>e.g. I stopped talking about it. – Я припинив (що робити?) говорити про це.</i>	- як обставина мети <i>e.g. I stopped to talk to him about it. – Я зупинився (з якою метою?), щоб поговорити з ним про це.</i>

Герундій вживається після певних дієслів. Їх можна об'єднати у категорії за спільними ознаками. Перед вами – найчастіше уживані дієслова, що передують герундію у реченні. Повний список подано на стор. 68

● **дієслова і фрази без прийменників**

TO AVOID	TO FINISH
CANNOT HELP	TO FORGIVE
TO ENJOY	TO MIND
TO EXCUSE	TO POSTPONE

● **дієслова і фрази з прийменниками**

TO APPROVE OF	TO LOOK LIKE
TO APOLOGIZE FOR	TO OBJECT TO
TO ASK ABOUT	TO PAY FOR
TO BELIEVE IN	TO PUT OFF
TO DEPEND ON	TO SPEND TIME ON
TO DREAM ABOUT/OF	TO SUCCEED IN
TO FEEL LIKE	TO THANK FOR
TO FORGIVE FOR	TO TALK ABOUT/OF
TO INSIST ON	TO THINK OF / ABOUT

● **предикативні словосполученні з або без прийменників**

TO BE BUSY	TO BE PLEASED AT
TO BE DISAPPOINTED WITH	TO BE PROUD OF
TO BE EXCITED ABOUT	TO BE REMEMBERED FOR
TO BE FAMOUS FOR	TO BE RESPONSIBLE FOR
TO BE FRIGHTENED OF	TO BE SCARED OF
TO BE FOND OF	TO BE SURE OF
TO BE GOOD/BAD AT	TO BE SURPRISED
	ASTONISHED) AT
TO BE INTERESTED IN	TO BE TIRED FROM / OF
TO INSIST ON	TO BE USED TO
TO BE KNOWN FOR	TO BE WORRIED ABOUT

Слід пам'ятати, що після певних дієслів можливе вживання **як герундія, так і інфінітиву.**

TO BE AFRAID	TO INTEND
TO BEGIN	TO (DIS)LIKE
TO CONTINUE	TO PREFER
CAN (NOT) AFFORD	TO REMEMBER
TO FEAR	TO RECOLLECT
TO FORGET	TO START
TO HATE	TO STOP

Оскільки в українській мові відсутній аналог герундія, то при перекладі з англійської маємо розмаїття варіантів.

3.4 Переклад герундія на українську мову The translation of the Gerund into Ukrainian

Віддієсловним іменником	swimming – плавання smoking – паління reading – читання singing – спів
Інфінітивом	before leaving – перед тим, як піти to be afraid of falling – боятись упасти
Дієприслівником	without waiting – не чекаючи on turning to the right - повертаючи (повернувши) направо
Підрядним реченням	I do not remember seeing her before. – Я не пам'ятаю, щоб бачив її раніше.

3.1 Форми герундія

Match the sayings halves with gerunds. Define the form of the Gerund.

Understanding is

Talking should be

Praising

Knowing that

Concentrating

- a. *you don't know much is knowing a lot*
- b. *the shortest distance between two points of view*
- c. *a busy man finds out what he is busy with*
- d. *an exercise of the brain not of the tongue*
- e. *saves time and money*

Exercise 1

Point out the Gerund and translate the sentences into Ukrainian.

1. Talking about ourselves is what we modern authors have a strong objection to doing.
2. He stopped writing and ran out into the bathroom. He started washing with great speed. He was two minutes late already.
3. It's silly of me, but I can't help feeling anxious.
4. I don't like being lied to – and that, I think, is what you are trying to do.
5. I feel a good deal of hesitation about telling you this story of my own.
6. On hearing the sound Nance hurried to the door, and Grand to the window.
7. He left without having paid the bill.
8. Would you mind waiting a moment in the hall?
9. He denied having opened the box.
10. Writing quickly tires my hand.
11. I remember seeing it on the table.
12. He was accused of having entered the country illegally.
13. I disliked my mother's interfering in the affair.
14. The boy spent half the night in writing to his people.

Exercise 2

Use the appropriate form of the Gerund of the verbs in brackets.

a)

1. (to speak) without (to think) is (to shoot) without aim.
2. Do you know what is peculiar about the English rule of (to drive)?
3. I'm glad to say that the lady didn't keep us (to wait).
4. I remember (to take) to Paris when I was a very small child.
5. I strongly suspect Gerald of (to know) all about it beforehand, though he swears he didn't.
6. Excuse me for not (to write) more at the moment.
7. She never lost the power of (to form) quick decisions.
8. He had an air of (to be) master of his fate, which was his chief attraction.
9. She denied (to see) me at the concert though I'm sure I saw her in the stalls.
10. I want to thank her for (to look) after the children while I was out.

b)

11. He passed to the front door and out without (to see) us.
12. I enjoy (to read) poetry.
13. I don't mind (to stay) here for a little while.
14. Are you going to keep me (to wait) all day?
15. They reproached us for (not to come) to the party; they were waiting for us the whole evening.
16. He suspected her of (to give) the police information about him while the workers were on strike.
17. I sat on the doorstep thinking over my chances of (to escape) from home.
18. There is very little hope of the work (to do) in time.
19. The coat showed evident signs of (to wear) on the preceding night.
20. (to avoid) the use of the perfect gerund is quite common if there is no fear of (to misunderstand).

Exercise 3

Fill in the right preposition and the gerund.

1. My great-aunt is good (cook).
2. I'm really looking (see) you.
3. You should always decide (tell) lies.
4. My step-sister was sorry (pull) my hair.
5. I'm excited (run across) you at the bus-stop.
6. This competition consists (wrestle) and (archery).
7. Are you frightened (get) a poor mark in English?
8. Franziska and Lydia are crazy ... (play) in our drama group.
9. What was the reason (call) me on Sunday morning?
10. You should learn more instead (have) a lie-in all the time

Exercise 4

Supply the appropriate form of the verbs:

1. She never admits (make) mistakes.
2. Please avoid (be) alone with him.

3. When you finish (do) your homework, call me.
4. She's considering (be) a member of T.E.D. Club.
5. On Sundays I always practise (talk) English with my aunt.
6. Do you fancy (play) tennis this afternoon?
7. I dislike (study) history.
8. Please try to escape (make) him angry.
9. I enjoy (walk) in the rain.
10. She can't afford (buy) a car.
11. I decided (go) on Saturday.
12. Don't forget (tell) him the news.

Exercise 5

Write about six things you love/hate doing. Use expressions from the box or write about other things. Model: I like cooking dinner for friends.

Cooking dinner for friends	Walking in the mountains
Listening to loud music	Eating out with friends
Travelling to new places	Reading novels
Dancing until 1 a.m.	Walking in the rain
Lying on a sunny beach	Getting up early
Running in the ocean	Watching old films

3.2 Функції герундія в реченні

Exercise 6

Translate the sentences into Ukrainian. Define the function of the Gerund. (It may be used as a subject, attribute, object, part of a compound verbal predicate, adverbial modifier)

1. Going for a trip to the Caucasus sounds great. 2. «Will you, please, stop writing?» the teacher said. 3. The family went on discussing plans for the summer holiday. 4. Excuse my interrupting you. Could you tell me where room 423 is? 5. «Do you mind my borrowing your textbook?» asked Jane. 6. «I don't remember ever meeting that man. Who is he?» Mr. Brooke asked her. 7. «Is the new film worth seeing?» «Certainly, it is», she answered. 8. He couldn't help telling her that her acting was marvelous. 9. «It's been a pleasure meeting you», said Mr. Brown. 10. If I were you I wouldn't insist on their returning tonight. 11. «I don't feel like going for a walk now», he said. 12. They did not think of staying there for more than three days. 13. They do not seem to be interested in settling the problem. 14. What are his reasons for refusing their invitation? 15. Instead of going home they went for a drive. 16. Instead of stopping the rain increased. 17. The young man stood a moment without speaking.

3.3 Різниця у вживанні герундія і інфінітива

Exercise 7

Read the following sentences, comment on the choice of the author whether to use an Infinitive or Gerund

1. a) I do not remember lending that book to anyone. b) Remember to lend the book to him. 2. a) Will you stop listening to the radio, please? b) He stopped to say

«good-bye» to us. 3. a) Peter forgot *buying* a present for Ann yesterday. b) «I hope you won't forget *to buy* a present for Johnny», she said.

Exercise 8

Change the sentences using the Gerund instead of the Infinitive

Model: He was afraid to remain alone. - He was afraid of remaining alone.

1. He continued to look at her. 2. She does not like to go there. 3. He likes to go for a walk. 4. They began to talk when he came. 5. Tom went on to tell lies. 6. Nick ceased to smoke. 7. He kept on to knock at the door. 8. He continued to read a magazine.

Exercise 9

Open the brackets using either the Gerund or the Infinitive according to the sense. Translate the sentences.

Model A: I remember meeting him for the first time ten years ago. (I met him in the past, and now I remember). Я пам'ятаю, що зустріла його вперше десять років тому.

I must remember to meet him at the station this evening. (I have not met him yet; the meeting is in the future). Треба не забути зустріти його на станції сьогодні увечері.

1. We read this book in class last year. Do you remember (read) it? 2. Don't ask me to pay the bill again. I clearly remember (pay) it a month ago. 3. Do you remember (book) seats for the theatre tomorrow? - Yes, I have the tickets here. 4. She remembers part of her childhood quite clearly. She remembers (go) to school for the first time and (be) frightened and (put) her finger in her mouth. 5. Please remember (post) a letter. 6. I remembered (lock) the door before I left but I forgot to shut the windows.

Model B: She completely forgot answering the letter months ago. (She did answer the letter, and then she forgot that she had done so). Вона зовсім забула, що відповіла на лист декілька місяців тому.

She completely forgot to answer the letter. (She didn't answer the letter, because she had forgotten to). Вона зовсім забула відповісти на лист.

1. He forgot (bring) his exercise book; he left it at home.
2. «Where is my dictionary? Have you forgotten (borrow) it a fortnight ago?»
3. She often told her little boy: «You must never forget (say) please and thank you».
4. «Why are you late again? Have you forgotten (promise) me that you would never be late again?» Nick was working very hard. He went for a walk to clear his head.

Model C: Nick was working very hard. He went for a walk to clear his head. What did he stop doing? - He stopped working. Він перестав працювати.

Why did he stop working? - He stopped to go for a walk. Він перестав (працювати), щоб піти на прогулянку.

1. Do, stop (talk)! I am trying to finish a letter.
2. I didn' t know how to get to your house so I stopped (ask) the way.
3. He stopped (light) a cigarette.
4. He stopped (walk) to light a cigarette.

Exercise 10

Open the brackets using the infinitive or the gerund in the appropriate form. In some cases both are possible.

1. She was afraid ... (to be) alone.
2. They accused him of ... (to rob) the bank.
3. I don' t feel like ... (to go) out.
4. I want ... (to go) there right now.
5. Don' t forget ... (to shut) the windows.
6. I couldn' t ... (to believe) my eyes when I saw him there.
7. He denied ... (to be) there.
8. The British Museum is much too big ... (to see) in a day or two.
9. Fancy ... (to find) you here.
10. I can' t afford ... (to buy) such an expensive dictionary at the moment.

3.4 Переклад герундія на українську мову

Exercise 11

Give the variants of translation of the Gerund in the following sentences.

1. Looking after children requires patience.
2. It is no use discussing it now, we must act.
3. It was no good taking the little darling up to town, she got only tired.
4. Seeing is believing.
5. What he loves best in the world is playing football.

6. The main thing to do in this situation is getting away as soon as possible.
7. The car began moving away.
8. Every second he kept glancing at the clock.
9. The kind woman started crying before the boy had finished his sad story.
10. However hard he tried he could not stop thinking about it.
11. He enjoyed teaching and knew that he did it well.
12. Do you mind seeing these photos again?
13. I dislike reminding you continually of the things you ought to have done.
14. I can't afford buying this expensive hat.
15. Oh, how I dislike being interrupted!

Exercise 12

Open the brackets using Gerunds. Translate the sentences

1. My watch keeps (stop). – That's because you keep (forget) to wind it.
2. Will you please stop (read)?
3. He doesn't feel like (go into politics).
4. He couldn't help (agree with them).
5. Try to avoid (be) late. He hates to be kept (wait).
6. He offered to buy my old car if I didn't mind (wait) a month for the money.
7. Imagine (have) to get up at five a.m. every day!
8. He suggested (call) a meeting and (let) them settle the matter themselves.
9. Please go on (write), I don't mind (wait).
10. He didn't want to lose any more money, so he gave up (play) cards.
11. Try to forget it; it isn't worth (worry) about.
12. It's no use (have) a bicycle if you don't know how to ride it.
13. I intended to go to the cinema yesterday, but my friend told me the film wasn't worth (see).
14. What about (buy) double quantities of everything today?
15. Let's go for a swim. – What about (go) for a drive instead?
16. I am tired of (do) the same thing all the time.
17. I am not used to (drive) on the left side.
18. I wanted to pay the bus fares, but my friend insisted on (pay).
19. The police accused him of (set) fire to the building.
20. Don't forget to lock the door before (go) to bed.
21. After (walk) for three hours we stopped to let the others catch up with us.
22. Why did you go all round the field instead of (walk) across it?

Exercise 13

Translate into English

1. Замість того, щоб обдумати питання як слід, вона відразу відмовилася.
2. Що завадило вам поїхати разом з нами?
3. Почувши далекий крик, він зупинився і прислухався.
4. Усвідомивши свою помилку, вона розсміялася.
5. Вона ніколи не втомлювалася говорити про своїх дітей. Вона так пишалася ними!

LESSON 4

Text A

CYBERCRIMES

Pre-reading activities

1. In pairs discuss these questions

a) What is hacker?

b) How easy it is do you think to infiltrate the Internet and steal sensitive information?

c) How can you protect your computer from viruses and spyware?

While-reading activities

1. Read introduction and paragraph 1 and make notes about HOW the criminal activity is accomplished and WHAT are the MOTIVES for it.

2. Read paragraph 2 and match the names of crimes with corresponding explanations.

1 malware	a) stealing money and data
2 cyber extortion	b) using dating sites to conduct a crime
3 cyber theft	c) damaging one's computer
4 crypto jacking	d) using scaring tactics
5 phishing	e) coercing a person
6 romance scams	f) online blackmailing
7 cyberbullying	g) stealing cryptocurrancies

3. Read paragraph 3 and be ready to say if the following statements are true or false.

1) The term "cracker" appeared earlier than the term "hacker".

2) Crackers use technology for criminal aids.

3) "White hat" hackers are hired by software companies to make flaws and holes in their security systems of the competitive companies.

4) "Dark-side hackers" are the same cybercriminals as "black hat" hackers. Only they don't wear hats.

5) It is very smart to suggest cybercriminals who attacked your company the job of a security consultant in your company because these have more knowledge and experience about the infiltration of networks than most computer security professionals.

The internet provides us with easy access to many activities. In fact, the successful completion of our daily tasks and operations depends on our use of the internet. However, using the internet also exposes us and our organizations to becoming potential victims of a variety of dangerous online crimes, including financial data theft and information leaks.

What is cybercrime?

Cybercrime refers to any criminal activity accomplished through using a network, technological devices, and the internet. Common motives behind committing cybercrimes include monetary gains, personal gains, and creating chaos within an organization or an individual's life.

Let's simply consider sending an email. As your email travels across the Net it is copied temporarily onto many computers in between. This means that it can be read by people who illegally enter computer systems. How to protect oneself from such a crime? The only way to protect a message is to put it in a sort of virtual envelope – that is to encode it with some form of encryption. A system designed to send email privately is Pretty Good Privacy – a freeware program written by Phil Zimmerman. As you see, this definite cybercrime can be prevented simply by installing the definite program on your computer.

Is everything so simple with the rest of the crimes? The list of cybercrimes or cyberattacks is rather long, their characteristics being various and intricate.

What are the ways of falling a victim to cybercriminals? BE AWARE!!!

Cyber theft is a type of cybercrime that involves an individual stealing money, personal information, financial data, or intellectual property through infiltrating another person or company's system. To protect crucial data, companies hire security consultants who analyze the risks and provide solutions. The most common methods of protection are passwords for access control, firewalls, encryption and decryption systems. Encryption changes data into a secret code so that only someone with a key can read it. Decryption converts encrypted data back into its original form.

Cyberbullying means bullying of an individual online. Acts of cyberbullying include any threat to a person's safety, coercing a person to say or perform an action, and displays of hate towards someone or a group of people. According to a study, 40% of teenagers surveyed stated they had faced online harassment, and 24% of adults between ages 26–35 reported having experienced cyberbullying.

Malware (malicious software) are programs designed to infiltrate or damage your computer, for example *viruses*, *worms*, *Trojans* and *spyware*. *Viruses* are an example of programs that fall under the malware umbrella. Viruses perform a variety of harmful actions when they land in a device via internet or an infected disk. They may destroy files, log your keystrokes, reformat your hard drive, or manipulate your files. A *worm* is a self-copying program that spreads through e-mail attachments; it replicates itself and sends copy to everyone who is in address book. A *Trojan horse* is disguised as a useful program, it may affect data security. *Spyware* collects information from your PC without your consent. Depending on the type of spyware used, cybercriminals can access a victim's credit card numbers, passwords, web cam, and microphone. Most spyware and adware (software that allows pop-ups – that is, advertisements that suddenly appear on your screen) is included with “free” downloads. Developers of adware programs get money from their activities on people's computers every time someone views or clicks on an advertisement window.

While some adware programs are legal and harmless, others are intrusive because of the type and frequency of the advertisements they show. Some adware

programs are illegal in many countries because they carry spyware, viruses, and other malicious software.

Phishing (password harvesting fishing) occurs when cybercriminals pose as an organization to trick victims into sharing their sensitive information. Oftentimes, cybercriminals successfully use scare tactics such as informing the victim that their bank account or personal device is under attack.

Cyber extortion is a form of online blackmailing. In these cases, cybercriminals attack or threaten to attack the victim and demand some form of compensation or response to stop their threats.

When hackers attack the network of a public or private entity to access classified data, sensitive information, or intellectual properties, they commit cyber spying. Cybercriminals may use the classified data they find for other ends, such as blackmail, extortion, public humiliation of an individual or organization, and monetary gains.

Romance scams. Some cybercriminals use dating sites, chat rooms, and dating applications to masquerade as potential partners and seduce people to gain access to their data.

Crypto jacking refers to when hackers use other people's computing power to mine cryptocurrencies without consent. Crypto jacking differs from cybercrimes because crypto jackers use the power of their victim's device while cybercriminals destroy a victim's data. Despite seeming less harmless than other cybercrimes, individuals should not take crypto jacking lightly because falling victim to it can significantly slow one's device and make it vulnerable to other cyber attacks.

A “white hat” hacker – a criminal or a security guard?

Originally all computer enthusiasts and skilled programmers were known as hackers, but during the 1990s the term “hacker” became synonymous with “cracker” – a person who uses technology for criminal aims. Nowadays, ordinary people often use the word “hacker” to mean both things.

But in computer industry, not all hackers are criminals. “White hat” hackers, are hired by software companies to find flaws and holes in their security systems. These hackers hack their way through a company's network to find existing flaws in their client's system and offer them solutions to those flaws.

And those involved in cybercrimes are “darkside hackers”.

Sometimes, cybercriminals or “black hat” hackers might want to go clean and turn away from crime. In these cases, working as a security consultant for the companies they used to torment is one of the best options. These have more knowledge and experience about the infiltration of networks than most computer security professionals.

Post-reading activities

- 1. Study the following words and expressions. Find ten which you consider to be the most essential to know for covering this topic and learn them.**

1. To expose to наражати на
2. Theft крадіжка
3. Leak витік
4. Monetary gain грошова мета
5. Encryption шифрування
6. Freeware безкоштовне програмне забезпечення
7. Crucial (personal, financial) data критична (особиста, фінансова) інформація
8. Fraud шахрайство
9. Victim жертва
10. To coerce примушувати
11. Online harassment переслідування в Інтернеті
12. To infiltrate просочуватися
13. Spyware шпигунське програмне забезпечення
14. Intrusive нав'язливий
15. To come under the umbrella of something стати частиною чогось
16. Blackmailing шантажування
17. Vulnerable вразливий
18. A Flaw витік
19. To torment докучати, знущатися

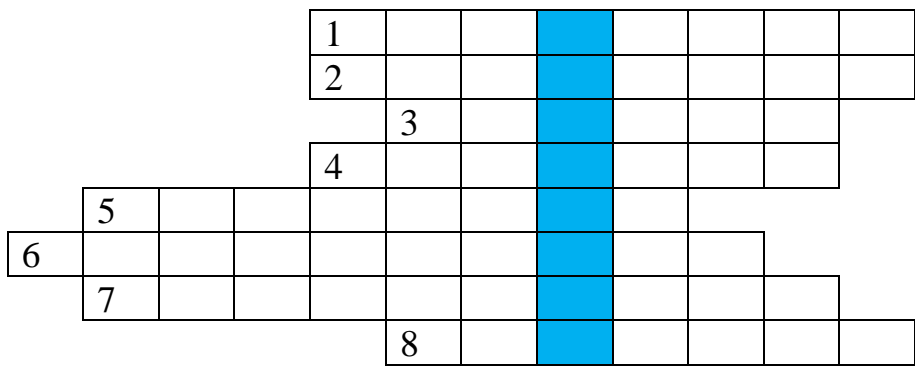
2. Have a look at two columns. According to what principle are the words distributed?

victim	cybercriminal
encryption	theft
freeware	fraud
password	harassment
hacker	spyware
firewall	blackmailing
decryption	cracker

3. Solve the clues and complete the puzzle. Give the definition of the key-word as you see it.

1. Users have to enter a to get access to the network.
2. A protects a company intranet from outside attacks.
3. A is a person who uses their computer skills to enter computers and networks illegally.
4. can infect your files and corrupt hard drive.
5. You can download from the Net; this type of software is available , free of charge but protected by copyright.
6. Encoding data so that unauthorized users can't read it is known as

- 7. This company uses techniques to decode secret data.
- 8. Most is designed to obtain personal information without the user's permission.



LESSON 4

Text B

SAFEGUARDS FOR YOUR SOCIAL NETWORKING PROFILES

Pre-reading activities

1. At present the majority of people have their social profiles. Adults as well as children. What are the reasons for creating profiles? When answering this question you may use such lexical units: social networking sites, accounts , selfie, comments, likes, updates, posts, to share, to receive, to connect.

2. When speaking about security for one's profile people use different terms: cyber security, IT security, computer security. Do they mean different things or they are just synonyms? Express your ideas.

3. Read the following definitions of cyber security. Analyze and say which one you consider to be the most precise. Explain your choice.

a) Cyber security, sometimes referred to as IT security or computer security, is the body of technologies and processes designed to protect computer systems, networks, and devices from the dangers of cybercrimes. Moreover, cyber security solutions prevent damage to hardware, software, electronic data, or any disruption or misdirection of the services they provide.

b) Cyber security is a potential activity by which information and other communication systems are protected from and/or defended against the unauthorized use or modification or exploitation or even theft.

c) Cyber security is a well-designed technique to protect computers, networks, different programs, personal data, etc., from unauthorized access.

While-reading activities

1. Read paragraph 1 and try to tick in your mind those safeguards for your profiles which you know about and moreover use them. Also you may make notes if you feel it to be difficult to bare them in your mind.

2. Read paragraph 2 and be ready to explain in what context the following people and organization are mentioned: social media service provider, your parents or elders, police station.

3. Read paragraph 3 and do one of the tasks suggested:

a) Write out all non-finite forms of the verb you encounter and be ready to translate them;

b) Write out all gerunds and participles you encounter and be ready to give the form of infinitive from which they were derived. For example, causing – to cause.

What you should/ shouldn't do to stay safe in cyberspace

Social networking sites such as Facebook, Twitter, Instagram, Snapchat, etc., are extensively used by all of us. We love sharing an update or a selfie or pictures with our friends and relatives. We love receiving likes and comments on our posts/pictures and updates. While social networking sites have helped us in connecting with our friends and relatives easily, there are serious cyber threats that can impact us if we are not careful...

You need to follow safeguards to protect yourself and your friends against cyber frauds. Let's discuss how you can protect yourself and your social media accounts. Don't forget to share these suggestions with your family and friends. First important step is to safeguard your own social networking account so that it is not hacked or compromised. For this you must use a complex password and change it periodically. Never share password of your social media account with anyone. Sharing password may compromise your account.

Whatever you post on social networking sites can be visible to everyone unless you restrict the access of your posts to your friends/followers. You must change the privacy settings of your social media account and ensure that your updates/posts, etc. are visible to your friends/ followers only.

Avoid accepting friend request from unknown people. Before accepting a friend request try to see how many other people are following or are in friend's list of the requestor. Cybercriminals can create fake account of your known person so be careful.

Whatever you post on social media generally remains there. Be careful before posting anything on social media. Think if the information can be shared with everyone. Never share your personal details such as address, phone number, date of birth, etc. on social media sites.

If you are using computer of your friend or a computer in a cyber cafe to access your social media accounts, make sure you don't click yes on "remember password popup" which generally comes when you login from a new computer. You must never allow any computer to remember your password (this means password will not be required to login to your account on that system). Always remember to sign off from your account after using it.

If you are accessing social media accounts on your mobile phone, remember to keep a strong password to access your phone.

“SOS! My account is hacked! Who is to help?”

If your social media account is hacked/ compromised, send an alert email or message to all your contacts. Immediately ask your social media service provider to temporarily block your account. Try to retrieve your password and change your password immediately.

If you notice that your fake account has been created, you can immediately inform social media service provider so that the account can be blocked. If someone

is bullying you, posting inappropriate comments or images or creating your fake account to damage your image, inform your parents or elders immediately so that they can support and guide you. If you are an adult you can also register a complaint at your nearest police station.

Some cyber safety tips

Never install unwanted software and apps from unknown sources.

Never click on links or files received from unknown person on social media. This may be an attempt to infect your computer with a malware.

Fake news or Hoax messages spread like wildfire on social media. It may create law and order problem and may end up causing loss of life in few cases. Before forwarding or sharing any message on social media or messaging app, check it on other sources also to confirm its authenticity.

Never download or upload copyrighted content such as poems, essays, videos, music, images, composition of songs, music, software, etc. without the author's permission. The act of downloading and uploading copyrighted work of others is an offence.

Never share your personal information unless you are sure it is necessary *and* secure to do so. Only share your personal information if you trust the person you share it with, believe it is required to share the information and can rely on the security of the platform through which you are sharing your information.

Post-reading activities

- 1) Answer the following questions. Compare with the answers of your group-mates.**
 - a) Which of the safeguards one should strictly follow and which of them one can ignore in your opinion?
 - b) Is it fair or unfair to pay for songs, videos, books or articles that you download? Should copyright infringement be allowed online?
 - c) What measures can be taken by government to stop cybercrime?
 - d) Personal information such as our address, salary and civil and criminal records is held in databases by marketing companies. Is our privacy in danger?
- 2) Browse in the internet and make a list of necessary safeguards for your email.**
- 3) Look through the text and find six cases of usage of non-finite forms of the verb. Write them out, name them and give the translation. For example: to share- infinitive - ділитися, downloaded – participle2 - завантажений, creating an account – gerund – створення акаунту.**
- 4) Do additional task on p. 70. Choose Variant A or B and render the article.**

GRAMMAR REVISION

Task 1

Differentiate between ‘- ing’ forms saying whether they are forms of the Gerund or Participle I.

1. The butterfly continued flying in its crazy way.
2. Walking through the woods in winter or summer didn't seem to make much difference.
3. They grew so close, forming a canopy overhead, shutting out the sun.
4. There was no fruit, no berries growing here...
5. The boy sat down, not knowing what to do.
6. There were fruit trees in abundance, the best he had ever seen and, after eating as many as he could, he filled the panniers right to the top.
7. That great mass of snow had broken tree causing a terrific avalanche.
8. Running, swimming and lying in the sun made him exceptionally strong.
9. Carefully removing the nest from the bush he stood the daisy inside and gently covered its roots with soil.
10. The next time I come I shall be invisible so I shall make my presence known by whispering to you.

Task 2

Do a test. Write T (True) or F (False) for the statement that follows using your experience. Name the infinitives.

1. ____ The teacher makes students do massive amounts of homework.
2. ____ She made me rewrite the report.
3. ____ Our professor had us translate long stories.
4. ____ She lets us use our dictionaries during the test.
5. ____ My school teacher got me to pronounce an English *th*.
6. ____ She got me to learn a lot of words.
7. ____ She always gets me to do my best.
8. ____ Our teacher lets us feel powerful, and we can do anything.
9. ____ Our English teacher has us take responsibility for our own learning.
10. ____ All teacher's efforts make us become better students and real professionals.

Task 3

Read the text and underline the Participles.

MARIA MONTESSORI

Born in the province of Ancona, Italy in 1870, Montessori became the first female doctor in her country after graduating from medical school in 1896. Later, working with deprived children, she set up a “Children’s House” in Rome. This was

the place where the Montessori Method was developed, an educational system that encourages an informal style of teaching.

The Montessori philosophy is simple. Children are unique individuals who must be free to learn without being criticized or restricted.

Children learn from given everyday materials and develop at their own pace. As a result, children enjoy learning and this gives them confidence and makes them happy. The Montessori Method of teaching children skills helps them become independent. When learnt to dress themselves, to cook and to put their toys and clothes away, encouraged children repeat activities as often as they wish and develop their skills by doing different activities.

Maria Montessori wanted children to learn by self-teaching. They like to work together and they develop a social life based on cooperation rather than competition.

Task 4

Point out verbals

1. I can sympathize with those who have lost loved ones.
2. When I have a new idea for a new project I feel inspired.
3. The test being written now is our final paper work.
4. Having been cheated the woman went to the police.
5. We went out not having locked the door.
6. When you cook a meal, you prepare food for eating by heating it.
7. Our business party was spent in entertaining clients.
8. 'Life is short, and it's for you to make it sweet'.

Task 5

Point out verbals in the following text. Comment on them.

The Man Who Could Work Miracles

by H.G. Wells

Until he was thirty years old, Fotheringay did not believe in miracles. In fact he discovered his own unusual powers when claiming that miracles were quite impossible.

When having a drink at his local inn, Toddy Beamish was driving him to the limits of his patience by disagreeing with everything he said.

'Listen, Mr Beamish,' said Mr Fotheringay, annoyed by his opposition. 'Let us clearly understand what a miracle is. It's something against the laws of nature done by the power of Will, something that couldn't happen without being specially willed.'

'No', said Beamish at last. No, it couldn't.

'Very well,' said Mr Fotheringay. 'And I might do, collecting all my will – "Turn upside down without breaking, and go on burning steadily," and – Hullo!'

It was enough to make anyone say 'Hullo!' The impossible had happened. The lamp hung upside down in the air, burning quietly with its flame pointing down.

Mr Fotheringay stood with a finger stretched out and the troubled face of one expecting a terrible crash. Mr Cox was the first to speak, remarking that Mr Fotheringay was a fool for playing such a trick.

He went home red-faced and hot. He was sitting on the bed, saying for the 17th time ‘I didn’t want the thing to turn over,’ when he remembered that just by saying the commanding words, he had willed the thing to happen.

Task 6

Test yourself: infinitives and –ing forms

1. Give the correct answer

1. I would like see/to see you again.	2. I hope go/ to go to America in July.
3. Can you help/to help me?	4. Try not to/ to not forget your keys.
5. Is it necessary to buy/ buy a ticket now?	

2. Put in the correct form of the verb

e.g. I promise to phone you every day (phone).

e.g. She suggested seeing a doctor (to see).

1. We agreed ...together (to work).	2. The boss refused ... to me (to talk).
3. I didn’t expect ... John there (to see).	4. I thought of ... you a birthday card, but I forgot (to send).
5. I’m really going to stop... (to smoke).	6. They still haven’t finished ... (to talk).
7. I can’t keep ...- I’m too tired.	8. Bill doesn’t want ... with us (to come).
9. Ann has decided ... a car (to buy).	10. Your English is good, but you must practice ... (to speak).

3. Find the correct answer

e.g. We need to get/getting tickets.- We need to get tickets.

1. It is important to say/say/saying “No” sometimes.	2. You can’t live without to eat/eat/eating.
3. To drive/Drive/Driving to work takes a lot of time.	4. I came here to see/ for see/for seeing my sister.
5. After finished/ finish/ finishing work, I went home.	6. My mom likes watching/watch/to watch the sea.

4. Rewrite the sentences with infinitives.

e.g. I saw Mary. I was happy. – I was happy to see Mary.

- 1) I found a cat in my bed. I was surprised.
- 2) I didn’t have time to phone you. I was sorry.
- 3) You can easily remember my phone number. My phone number is...

5. Rewrite the sentences with “too, enough”.

- 1) It’s very heavy. Nobody can lift it (too). –It’s too...
- 2) He is 18. So he can vote (enough). He is ...
- 3) I’m very tired. I can’t drive (too).

Task 7

Read the text about advantages and disadvantages of using Internet. Complete the sentences with the bare infinitive, -to- infinitive or -ing forms of the verb in the box. Use each verb once.

send obtain know commit surf become filter publish do attach waste join

Advantages and disadvantages of using the World Wide Web

ADVANTAGES

- a) E-mail allows us ...to send... messages all around the world quickly and easily.
- b) You can print out an e-mail and keep it as a proof that someone has agreed ... something for you.
- c) It's easy ... documents, photos and files to e-mails.
- d) People can use e-mail ... mailing lists on topics that interest them and receive regular news and updates.
- e) The Internet allows people ... information easily and cheaply on a limitless range of subjects.
- f) Organizations can publish news as it happens and let people ... what is happening.

DISADVANTAGES

- g) In working situations the use of the Internet can encourage ... time.
- h) The Internet helps criminals ... crimes involving fraud and attacking systems.
- i) Children can use the Internet ... web sites that are unsuitable for them.
- j) Overuse of the Internet can make certain people ... addicts who are no longer interested in anything else.
- k) The problem of unwanted junk mail forces us ... all our incoming messages.
- l) A lot of information in the Internet is inaccurate. There is very little quality control and this allows dishonest operators ... information that is quite untrue.

ADDITIONAL TASKS

Additional task 7 to Lesson 1, text A

Talents of Computer Science

Alongside with the above mentioned personalities it's necessary to mention others whose contribution into the development of computer science cannot be exaggerated.

Computer science has been a widely influential field in recent decades. A wide variety of people have contributed their talents to the field. While many people may not know these names, they have made major changes to the lives of millions of people. If you're considering a career in computer science, look at some of the people who have made this career path possible.

1. Charles Babbage

Known for being the first to come up with an automatic calculator, Charles Babbage was a mathematician in Victorian England. He created plans to build the Analytical Engine, a machine that contained some aspects of modern computers. Though it was never built in his lifetime, the concepts and plans Babbage purposed have earned him the title of the "father of computing."

2. Ada Lovelace

Babbage was not the only person in Victorian England considering the possibility of computers. Ada Lovelace is known as the first programmer in history. She was the daughter of poet Lord Byron and a good friend of Babbage. Having found interest in his ideas, Ada took to writing algorithms to be used on a machine. While these programs were not used in her lifetime, she laid the foundations for all modern programmers.

3. Tim Berners-Lee

Whenever you type in "www." you are searching for a site on the World Wide Web invented by Tim Berners-Lee. He created the World Wide Web, a system of pulling up web pages for websites.

Tim Berners-Lee is also the inventor of HTML. He was born in England and has an engineering background, through developing computer systems in the 80s. He is indeed a true pioneer in the field of Computer Science, and without Tim's ideas and development work, we simply wouldn't have the internet as we know it today.

Tim is the director of the World Wide Web Consortium (W3C), where he currently oversees the development of the web. Also, Tim lectures at the University of Oxford, teaching computer science. Tim was knighted by Queen Elizabeth II for his contribution and named by Time magazine for being one of the most important and influential people of the 20th century .

4. John von Neumann

John von Neumann is a Hungarian-American computer scientist and mathematician, known for his work in pioneering the field of game theory. He contributed over 150 papers in his lifetime, spread out over Pure and Applied Mathematics, and other specialized topics. In World War II, John von Neumann also worked on the Manhattan Project, where he solved problems in the nuclear physics domain. There is an interesting book related to his work: Theory of Games and Economic Behavior

4. Woz

Everyone is aware of Steve Jobs and how Apple is one of the biggest names in the computer and smartphone markets. However, many are unaware of Steve Wozniak and his contributions. Steve Wozniak, or “Woz”, is the co-founder and original programmer Apple. He was the technical genius behind the company, helping to build Apple products and services. Computers were originally very large and too expensive for regular Americans to own. Companies like Windows and Apple changed this trend. Wozniak cofounded Apple Computer Company alongside Steve Jobs in 1976. They released the Apple II which was one of the first highly successful personal computers in 1977. The general population now had an easier way to own computers. Personal computers also revolutionized the workplace. Wozniak is credited for helping to start the home computer craze and has helped bring this technology to people’s homes.

5. Dennis Ritchie

Dennis Ritchie is the co-creator of the C Programming language, the underpinning language for many software systems. It is used in many different industries and has inspired a whole series of programming languages (or C-like languages). The language is taught in computer science courses, inside Universities and educational institutions, is a foundational language for software developers.

Dennis was also the co-creator of Unix, a family of operating systems that were developed in the 1970s. Unix lead the way and became very popular for its features, by having a modular design, unified filesystem, and the Unix Shell (later developed into Bash). Dennis, along with his co-founder, was awarded the Turing Award, one of the most prestigious awards in the field of computer science. Dennis is a leader in computer science, providing an incredible language that has taken the world by storm.

6. Brian Kernighan

Brian Kernighan is co-author the first C Programming book. The significance of the C Programming language is tremendous. Many have said that learning C is almost an essential in any software developer’s journey- a language that helps people

to understand the building blocks of a computer. Brian has been a professor of the computer science division at Princeton University since the year 2000.

Brian was also contributed to the development of Unix, a family of operating systems that were released in the 1970s. Unix lead the way and became very popular for its features, by having a modular design, unified filesystem, and the Unix Shell (later developed into Bash). Unix was used by Apple in “MacOS”, which maintains the largest amount of installations using Unix.

7. Linus Torvalds

Linus Torvalds is the creator of the famous “Linux” kernel, the core of many operating systems, such as Chrome OS and Android. He is also the creator of “Git”, the version control system used heavily throughout the software development industry. Linus is a pioneer in the industry with his engineering mindset, and relentless ability to develop software systems.

Some great books on Linux:

- [Linux Bible](#)
- [How Linux Works](#)
- [Linux Pocket Guide](#)

Linus Torvalds is best known for creating the Linux Operating System. He made the kernel of the operating system which is the brain that helps the system running correctly. All parts of the system need a kernel to work correctly. People can use the kernel for free and build all the features they need for a system. This operating system is a good alternative to Windows and Mac IOS since it gives a people the ability to modify the system even at the base level.

8. James Gosling

James Gosling is the inventor of the Java programming language. He is a Canadian computer scientist and distinguished engineer at Amazon Web Services. His contributions to the field of computer science are phenomenal. Java is one of the most popular languages used in the software industry. It’s used throughout many organizations and software systems. Java was acquired by Oracle Corporation, to which it currently owns the rights to the programming language

9. Joseph Carl Robnett Licklider

Joseph is the inventor of Cloud Computing, a computing paradigm that has taken over the world. Today’s largest companies, such as Amazon, Google and Microsoft have adopted Cloud Computing and have harnessed its power to create Cloud services. These services are used by other software systems to build applications that do not pose high storage costs and the need for local data centers. This is the forefront of modern technology and the software industry.

The Dream Machine was released, showing his life's work and his vision of something called "human-computer symbiosis".

10. John McCarthy

John McCarthy is the inventor of Artificial Intelligence (AI). He was a computer scientist and cognitive scientist born in the United State of America, providing a significant contribution to the computer science industry with the topic of Artificial Intelligence. Additionally, he also created the Lisp programming language family and had influence over the design of the ALGOL language. He spent most of his career at the Stanford University and received a Turing Award for his contributions to the field of AI.

His tribute: Artificial Intelligence and Mathematical Theory of Computation: Papers in Honor of John McCarthy

11. Guido van Rossum

Many programming languages have come and gone over the years. Each program can be beneficial in certain situations, but some languages have widespread usage. When Guido van Rossum made the Python programming language, he made it for a general purpose in mind. Today, Python is one of the most widely used and recognized languages on the market. Programming is a sought after skill that can lead you into software development among other fields.

While many people have contributed to the field, there is still so much work to be done. There will always be a need for computer scientists. As computers become more and more a part of daily life, computer scientists will continue to be in demand. There are a vast variety of fields within computer science and information technology for you to find a career.

Meanings of abbreviations used in the text:

HTML (the Hyper Text Markup Language) is the standard markup language for documents designed to be displayed in a web browser. Web browsers receive HTML documents from a web server or from local storage and render the documents into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document.

BASIC (Beginners' All-purpose Symbolic Instruction Code) is a family of general-purpose, high-level programming languages designed for ease of use. The original version was created by John G. Kemeny and Thomas E. Kurtz at Dartmouth College in 1963. They wanted to enable students in non-scientific fields to use computers. At the time, nearly all computers required writing custom software, which only scientists and mathematicians tended to learn.

Additional task 3 to Lesson 1, text B

The Future of Computer Science

Computer Science is at the heart of an increasing number of valuable projects. Human life has been significantly influenced by CS fast-growing developments and

new long-term researches have been promoted in multiple domains of application such as **Security and Privacy, Health-care, Robotics, Artificial Intelligence (AI), Machine Learning, Networks and Communication, Big Data and Cloud Computing**. For example, at MIT (Massachusetts Institute of Technology), origami medical robot prototypes have already been invented and their potentialities in the field of medicine and healthcare are being analyzed: they could be used, for example, to patch wounds, to make the human body absorb the right dose of medicine at the right time or to accomplish planned tasks; the first Volkswagen's driverless car is expected on the market by 2019; in 2050 aircrafts are expected to have no windows, but headsets that will be supported by virtual reality visors positioned over the passengers' heads to project 3D films or videogames; IBM's Watson project of machine learning has opened new possibilities to develop evolutionary customer-care services working with extremely large amounts of data; the AI community in the educational field, with its projects of intelligent tutoring systems, MOOCs - Massive Open Online Courses, and machine translation technologies, etc. has been reasoning on the effects resulting from promoting digital literacy in the school systems, and so on.

However, this ever growing amount of data raises the problem of security which must not be overlooked, and that's why some further research in the CS field is being carried out to develop up-to-date protection plans. The Political Science Department of the University of Bucharest, for example, is working on a map of cyber-threats in order to plan new tactics to face hackers' attacks and design algorithms hard to be cracked. All in all, CS was created only very recently, but it is encompassing an increasing number of fields of our life every day, while altogether proving that its potentiality is huge and forever growing. Governments are investing in it too, as is the case of Europe, which, with its Program Horizon 2020, is now trying to boost the fields of research to support innovative ideas following three basic priorities:

1. excellent science
2. industrial leadership
3. societal challenges.

Each of the priority fields develops strong links with computing as, for example, in the section of Future and Emerging Technologies (FET), where the project AQUATE has been developing quantum technologies as its main objective. In a few words, we are living in the infancy of our 'computing' future.

Additional grammar information Gerund Lesson 3

Герундій вживається після таких дієслів:

● **дієслова і фрази без прийменників**

TO AVOID	TO FANCY	TO KEEP ON
TO BURST OUT	TO FINISH	TO MIND
TO DENY	TO FORGIVE	TO POSTPONE
TO ENJOY	TO GIVE UP	TO PUT OFF
TO EXCUSE	TO GO ON	CANNOT HELP

● **дієслова і фрази з прийменниками**

TO ACCUSE OF	TO GET USED TO
TO AGREE TO \ WITH	TO GIVE UP THE IDEA OF
TO ADMIT TO	TO INSIST ON
TO APPROVE OF	TO LOOK LIKE
TO AIM AT	TO LOOK FORWARD TO
TO APOLOGIZE FOR	TO OBJECT TO
TO ASK ABOUT	TO BE OPPOSED TO
TO ADJUST TO	TO PERSIST IN
TO BLAME FOR	TO PREVENT FROM
TO BELIEVE IN	TO PAY FOR
TO BOAST ABOUT/OF	TO PROTECT FROM/AGAINST
TO COMPLAIN OF / ABOUT	TO PUT OFF
TO CONCENTRATE ON	TO RELY ON
TO CONGRATULATE SB. ON/FOR	TO SPEND TIME ON
TO CONFESS TO	TO SPEAK OF
TO COUNT ON	TO SPECIALIZE IN
TO COPE WITH	TO SUCCEED IN
TO DECIDE AGAINST	TO SUSPECT OF
TO DEPEND ON	TO THANK FOR
TO DREAM ABOUT/OF	TO TALK ABOUT/OF
TO FEEL LIKE	TO THINK OF / ABOUT
TO FORGIVE FOR	

● **прідикативні словосполучення з або без прийменників**

TO BE AWARE OF	TO BE HAPPY ABOUT
TO BE ACCUSTOMED TO	TO BE INTERESTED IN
TO BE ADDICTED TO	TO BE INVOLVED IN
TO BE ANXIOUS ABOUT	TO INSIST ON
TO BE BUSY	TO BE KNOWN FOR
TO BE CAPABLE OF	TO BE GUILTY OF
TO BE COMMITTED TO	TO BE INDIGNANT AT
TO BE CONCERNED ABOUT	TO BE OUT OF (hearing or seeing)
TO BE CONTENT WITH	TO BE PLEASED AT
TO BE DEDICATED TO	TO BE PROUD OF
TO BE DEVOTED TO	TO BE REMEMBERED FOR
TO BE DISAPPOINTED WITH	TO BE RESPONSIBLE FOR
TO BE DISCOURAGED BY	TO BE SCARED OF
TO BE ENGAGED IN	TO BE SURE OF
TO BE EXCITED ABOUT	TO BE SURPRISED (ASTONISHED) AT
TO BE FAMOUS FOR	TO BE TIRED FROM / OF
TO BE FRIGHTENED OF	TO BE USED TO

TO BE FOND OF	TO BE WORRIED ABOUT
TO BE GOOD/BAD AT	TO BE WORTH (WHILE)

● *дієслова, після яких можливе вживання як герундія, так і інфінітиву*

TO BE AFRAID	TO INTEND
TO BEGIN	TO (DIS)LIKE
TO CEASE	TO NEGLECT
TO CONTINUE	TO PREFER
CAN (NOT) AFFORD	TO PROPOSE
TO DREAD	TO REMEMBER
TO FEAR	TO RECOLLECT
TO FORGET	TO START
TO HATE	TO STOP

Additional task 4 to Lesson 3 text A

Turing Award

Awarded for Outstanding contributions in computer science
Country United States
Presented by Association for Computing Machinery (ACM)
Reward(s) US \$1,000,000
First awarded 1966; 57 years ago
Last awarded 2021
Website amturing.acm.org

The ACM A. M. Turing Award is an annual prize given by the Association for Computing Machinery (ACM) for contributions of lasting and major technical importance to computer science. It is generally recognized as the highest distinction in computer science and is colloquially known as or often referred to as the "Nobel Prize of Computing".

The award is named after Alan Turing, who was a British mathematician and reader in mathematics at the University of Manchester. Turing is often credited as being the key founder of theoretical computer science and artificial intelligence. From 2007 to 2013, the award was accompanied by an additional prize of US\$250,000, with financial support provided by Intel and Google. Since 2014, the award has been accompanied by a prize of US\$1 million, with financial support provided by Google.



The first recipient, in 1966, was Alan Perlis, of Carnegie Mellon University. The first female recipient was Frances E. Allen of IBM in 2006. The latest recipient, in 2021, is Jack Dongarra.

Additional task 4 to Lesson 4 text B

Variant A What should I do to protect myself?

There are two main steps for preventing cyberattacks.

Firstly, you must take precautionary measures to protect your device(s) and information. Second, you must take advantage of suitable cyber security implementations.

By staying cautious and using the best internet security and other advantageous cyber security software applications, everyone can easily stay safe and secure from cyber-attacks. Let's find more about the details of each step.

9 cyber safety tips

1. Use strong passwords.

Choose a password that does not include your name, phone number, or date of birth, or any other piece of information commonly shared with others. The password you create should have at least 12 characters and include a mix of upper-case and lower-case letters, numbers, and symbols, making it harder to crack.

Also, avoid using the same password for all your accounts. Otherwise, a person who hacks one of your accounts may find a way to hack all of them.

2. Avoid suspicious URLs.

Always pay attention to the URLs you click on and check whether they are legitimate by running the address through a search engine. Fake URLs are often similar to legitimate website addresses, so pay extra attention. If a URL looks unfamiliar or suspicious, do not click on it.

Before making transactions or adding your personal data on a website, make sure the site is legitimate by looking through consumer reviews. If your device comes with internet security software that includes functionality to secure online transactions, do not forget to enable it before carrying out any financial transactions.

3. Never download or open files from spam emails or unknown senders.

Email spoofing, which is the act of using an email address very similar to a known person or entity's to trick victims into sharing their information, is a very common method for cybercriminals to launch a cyber attack.

Always check the senders' email addresses before opening their email or downloading any attachments. Even if the sender's name looks familiar, always double-check the email address to see if it matches the email address you have of that person.

4. Never click on links in spam emails or untrusted websites.

Like email attachments, you should always avoid clicking on links in spam emails, messages from unknown people, or even websites. Most of the links provided from suspicious websites contain malware and can threaten your online safety.

5. Avoid connecting untrusted hardware to your device.

Many people, unknowingly or knowingly, carry malware and other harmful software on hardware like hard drives and USB flashes. Connecting hardware carrying harmful software will almost inevitably lead to your device becoming infected.

Exercise special care when connecting unknown hardware to your device, especially if your device is connected to an entire network of other devices since harmful software can spread easily throughout a network. Make sure to use an antivirus program to scan any hardware you connect to your device before opening its files.

6. Never share your personal information unless you are sure it is necessary *and* secure to do so.

Refrain from sharing your personal information regardless of the medium you use to communicate unless doing so is necessary. Only share your personal information if you trust the person you share it with, believe it is required to share the information and can rely on the security of the platform through which you are sharing your information.

7. Keep your software apps and operating systems updated.

Manufacturers of electronic devices and software companies frequently update their software programs to fix the holes and flaws in their security systems. So, keeping your applications and operating systems up to date ensures that you benefit from the most recent security patches to protect your information.

8. Do not easily trust someone who claims to work for a reputable public or private entity.

Whenever you receive an email from a reputable company, check their address. The email is likely a scam rather than an official email. This principle holds for banks and governmental organizations as well.

Even when someone gives you an unexpected call and claims to be from a reputable entity, you should stay safe by hanging up. Instead, call the number on the entity's official website to make sure you speak directly with one of its representatives, not a cybercriminal.

9. Beware of public Wi-Fi risks.

Public Wi-Fi, although beneficial in that it's free, lacks security and can leave you vulnerable to many types of cybercrimes. So, make sure your software is up-to-date and avoid using password-protected websites that require your personal information to log in to stay clear of potential cyber attacks.

Another secure way is to use a Virtual Private Network (VPN). VPNs create a secure network in which all data sent over a Wi-Fi connection is encrypted. VPNs come in different forms, but the most common include software, application, and as a feature of an antivirus.

Variant B Cyber security solutions

Preventing typical human errors can remove a high percentage of cybercrime possibilities. Nevertheless, having a fully secured computer or network requires the assistance of proper software, and this is a discussion wherein the benefits of cyber security solutions best showcase themselves.

What does cyber security mean? Cyber security, sometimes referred to as IT security or computer security, is the body of technologies and processes designed to protect computer systems, networks, and devices from the dangers of cybercrimes. Moreover, cyber security solutions prevent damage to hardware, software, electronic data, or any disruption or misdirection of the services they provide.

The importance of cyber security solutions stems from their ability to provide comprehensive protection to users. If you wish to keep your networks and devices safe from unauthorized access or malicious attacks, then consider the different types of cyber security to determine the best one for your needs.

1. Antivirus

The first step in securing your device(s) is installing proper antivirus software on them.

Antivirus programs scan data and incoming files to detect unsafe software and remove any threats before they cause an issue. These programs identify and eliminate known viruses, worms, and malware based on what is available in their extensive database.

2. Internet security

Internet security programs establish measures against attacks over the internet to ensure the security of devices and networks. These programs prevent attacks targeted at browsers, networks, operating systems, and other applications.

Internet security software uses many methods to protect the transfer of data, including encryption and from-the-ground-up engineering. The most common and significant ones include firewalls, access controls, data loss prevention (DLP), distributed denial-of-service prevention, and email security.

3. Firewall

Firewalls act as filters that allow or deny access to a network, thus protecting the devices connected to it. Firewalls keep harmful files away and prevent malicious codes from being embedded into networks. Apart from that, they also screen and block dangerous traffic.

Moreover, firewalls create checkpoints between an internal private network and the public internet. They limit network exposure by hiding your private network system and information from the public internet.

4. Endpoint security

Endpoint security refers to a software approach for ensuring that all the endpoint devices, such as computers, tablets, scanners, and others, connected to a network remain safe. Such devices serve as access points to an enterprise network since they offer attack paths and points of entry that malicious files can exploit. Therefore, endpoint security aims to secure every endpoint to avoid potential threats.

Moreover, network administrators can use endpoint security solutions to restrict the use of sensitive data and access to certain websites to maintain compliance with the policies and standards of the organization.

These features make endpoint security solutions particularly well-suited for small and large organizations.

Keys

Lesson 1 Text A task 6

1822 <i>C. Babbage</i> steam-driven calculating machine 1890 <i>H. Hollerith</i> punchcard system, founder of the future IBM company	1936 thanks to <i>Alan Turing's</i> machine any computer algorithm could be simulated	1943-44 <i>J. Mouchly</i> and <i>J. Presper Eckert</i> built ENIAC	1953 <i>G. Hopper</i> the grandmother of COBOL, developed the first computer language	1961 <i>G. Forsythe</i> established Computer Science as a discipline 1970's – C and Pascal Languages – <i>S. Jobs</i> and <i>S. Wozniak</i> rolled out the Apple I	1981 Acorn, the first IBM personal computer used MS- DOS 1990 <i>Tim Berners- Lee</i> developed HTML, the WWW was born	1996 <i>L. Adleman</i> developed the DNA computing studies 2001 Mac OS X operating system was launched	2013 Stanford researches created a sort of biological computer 2016 IBM created free quantum cloud computing
1822 T 1890 T	1936 T	1934 F (1946 T)	1953 F (1959 T)	1961 T 1970s T	1981 T 1990 HTML F (1993 T), 1990 WWW T	1996 F (1994 T)	2013 T 2016 T

Lesson 1 Text B task 1

Quotes 1,2,3 – Steve Jobs, 4,5 – Elon Mask, 6,7,8,9 – Bill Gates.

Lesson 2 Text A task 2

1d, 2a, 3e, 4b, 5d, 6c

Lesson 4 text A task 2

1c 2f 3a 4g 5d 6b 7e

Lesson 4 Text A task3

				1p	a	s	s	w	o	r	d			
				2f	i	r	e	w	a	l	l			
					3h	a	e	k	e	r				
				4v	i	r	u	s	e	s				
					5f	r	e	e	w	a	r	e		
				6e	n	c	r	y	p	t	i	o	n	
					7d	e	c	r	y	p	t	i	o	n
						8s	p	y	w	a	r	e		

Список літератури

1. <https://thesassway.com/how-computer-science-has-impacted-sport/> (дата звернення 11.11.2022)
2. <https://www.scienceknowings.com/2022/04/how-cs-technology-impacted-the-games.html#point22> (дата звернення 19.11.2022)
3. <https://csjournals.com/IJCSC/PDF4-2/42.%20Rana.pdf> (дата звернення 01.12.22)
4. <https://www.gcu.edu/blog/engineering-technology/famous-computer-scientists-throughout-history> (дата звернення 15.12.22)
5. <https://initialcommit.com/blog/computer-scientists-who-made-history> (дата звернення 23.12.2022)
6. https://en.wikipedia.org/wiki/Turing_Award (дата звернення 24.01.2023)
7. <https://englishpost.org/english-exercises/> (дата звернення 25.01.2023)
8. What Is Artificial Intelligence (AI)? How Does AI Work? URL: <https://builtin.com/artificial-intelligence> (дата звернення 21.04.2023)
9. Artificial Intelligence: What It Is and How It Is Used. URL: <https://www.investopedia.com/terms/a/artificial-intelligence-ai.asp> (дата звернення 21.04.2023)
10. What is artificial intelligence (AI)? URL: <https://www.techtarget.com/searchenterpriseai/definition/AI-Artificial-Intelligence> (дата звернення 21.04.2023)
11. Top 20 Best Programming Languages to Learn in 2023: <https://www.simplilearn.com/resources/software-development/articles> (дата звернення 20.05.2023)
12. Computer programming language: <https://www.britannica.com/technology/computer-programming-language/SGML> (дата звернення 20.05.2023)
13. The 10 Most In-Demand Coding and Programming Languages to Learn <https://www.bestcolleges.com/bootcamps/guides/most-important-coding-languages/> (дата звернення 20.05.2023)
14. https://books.google.com.ua/books/about/Bit_by_Bit.html?id=aQfuxwEACAAJ&redir_esc=y (дата звернення 27.05.2023)
15. <https://www.ldoconline.com/dictionary/come-work-etc-under-the-umbrella-of-something> (дата звернення 28.05.2023)
16. https://www.tutorialspoint.com/fundamentals_of_science_and_technology/cyber_crime_and_cyber_security.htm (дата звернення 28.05.2023)
17. https://kvsangathan.nic.in/sites/default/files/CyberSafety_in_English.pdf (дата звернення 28.05.2023)
18. <https://www.kaspersky.com/resource-center/threats/what-is-cybercrime> (дата звернення 30.05.2023)

19. <https://www.newcomme.com/what-is-cyber-security-and-cyber-crimes/> (дата звернення 01.06.2023)
20. <https://www.englishdom.com/ua/blog/formi-anglijskogo-diyeslova-gerundij-diyeprikmetnik-infinitiv/> (дата звернення 06.06.2023)
21. <https://www.m-translate.com.ua/grammar/english/4-4-non-finite-forms%20of%20the%20verb#> (дата звернення 06.06.2023)
22. <https://cscareerline.com/how-does-computer-science-help-the-world/> (дата звернення 08.06.2023)
23. <https://www.rasmussen.edu/degrees/technology/blog/ways-computer-science-benefits-society/> (дата звернення 08.06.2023)
24. Практична граматики англійської мови для студентів 3 курсу. Навчальний посібник з граматики для студентів 3 курсу факультету іноземних мов / Укладачі: Меркулова Т.К., Кузьміна В.С., Набокова І.Ю., Липецька В.С. – Х.: ХНУ імені В.Н. Каразіна, 2010. – 134 с.
25. English Grammar in Practice: Part 2 – Non-Finite Forms of the Verb: навчальний посібник для студ. 2 курсу факультетів іноземних мов / укл. Бондарук Я. В., Деркач С.П., Слободяник О.О. – Умань, 2019. – 160 с.

Навчальне видання

Укладач:
Лукащук І. В.

МЕТОДИЧНІ ВКАЗІВКИ ДО ПРАКТИЧНИХ ЗАНЯТЬ
з навчальної дисципліни
«Іноземна мова за професійним спрямуванням»
(англійська мова) для студентів II курсу III семестру
денної форми навчання
Напрямок підготовки «Комп'ютерні науки»

Навчальний посібник

Друкується за авторським редагуванням

Підписано до друку 09.08.23
Гарнітура Times New Roman
Замовлення № 254

Формат 60x84/16
Обл.-вид. арк. 4,05
Ум. друк. арк. 4,41

Папір офсетний
Тираж ел. вид.



Ніжинський державний університет
імені Миколи Гоголя
м. Ніжин, вул. Воздвиженська, 3А
(04631)7-19-72
E-mail: vidavn_ndu@ukr.net
www.ndu.edu.ua

Свідоцтво суб'єкта видавничої справи
ДК № 2137 від 29.03.05 р.