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## **ENGLISH FOR INFORMATION TECHNOLOGY: HISTORY AND TYPES OF A COMPUTER**

### **НАВЧАЛЬНИЙ ПОСІБНИК**

*Рекомендовано Методичною радою КПІ ім. Ігоря Сікорського  
як навчальний посібник для здобувачів ступеня бакалавра  
за освітніми програмами*

*«Інженерія програмного забезпечення інформаційно-управляючих систем»,  
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## **ENGLISH FOR INFORMATION TECHNOLOGY: HISTORY AND TYPES OF A COMPUTER**

### **НАВЧАЛЬНИЙ ПОСІБНИК**

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**АНОТАЦІЯ.** Навчальний посібник призначений для аудиторної і позааудиторної роботи зі студентами першого курсу факультету інформатики та обчислювальної техніки. Видання складається з трьох розділів, які охоплюють професійно-орієнтовані теми: “History of Computers”, “Computers Today”, “Types of Computer”. Посібник також містить робочі аркуші, додатки, словник, список аббревіатур до кожного розділу, відповіді.

Представлені в посібнику вправи спрямовано на розвиток вмінь усного та писемного мовлення, читання, аудіювання і перекладу, а також удосконалення лексичної та граматичної компетентностей. Мета навчального посібника – розширити професійний тезаурус студентів, сформувати навички роботи з автентичними матеріалами, сприяти розвитку професійно-орієнтованої комунікативної компетентності, сформувати інтерес до вивчення англійської мови професійного спрямування.

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## ПЕРЕДМОВА

Навчальний посібник призначено для забезпечення підготовки бакалаврів спеціальностей 121 «Інженерія програмного забезпечення», 123 «Комп'ютерна інженерія», 126 «Інформаційні системи та технології». Видання створено для аудиторної і позааудиторної роботи зі студентами першого курсу факультету інформатики та обчислювальної техніки. Його мета – сформувати у студентів іншомовну комунікативну компетентність, необхідну для англomовного ситуативного і професійного спілкування.

Навчальний матеріал посібника організований за тематичним принципом та відповідає вимогам робочої навчальної програми з кредитного модуля «Вступ до загальнотехнічної англійської мови» дисципліни «Іноземна мова». Видання розраховане на 10 годин аудиторних і позааудиторних занять у першому семестрі.

Посібник містить сучасні автентичні професійно-орієнтовані матеріали з інформаційних технологій, які було адаптовано для студентів першого курсу факультету інформатики та обчислювальної техніки. Видання забезпечує роботу студентів із текстами, відео- й аудіоматеріалами, включає лексичні та граматичні вправи, розроблені відповідно до тем професійного спрямування.

Навчальний посібник складається з трьох розділів, які охоплюють професійно-орієнтовані теми: “History of Computers”, “Computers Today”, “Types of Computer”. Видання також містить робочі аркуші, додатки, словник, аббревіатур до кожного розділу, відповіді.

Усі розділи навчального посібника включають некомунікативні, умовно-комунікативні та комунікативні вправи, спрямовані на розвиток умінь усного мовлення, читання, аудіювання, перекладу, письма, а також удосконалення лексичної та граматичної компетентностей. Після трьох розділів є секція для перевірки залишкових знань (Revision) із завданнями для контролю рівня засвоєння пройденого лексичного і граматичного матеріалу.

У робочих аркушах (Worksheets) подано рисунки для візуалізації матеріалу, вивченого в першому та третьому розділах посібника.

Додатки (Appendices) містять пояснення граматичних явищ, вправи на опрацювання яких включено в перший, другий і третій розділи посібника.

У словнику (Word list), а також списку абревіатур (List of Abbreviations) подано перелік ключових загальноживаних та термінологічних лексичних одиниць до кожного розділу.

Під час роботи з навчальним посібником студенти зможуть розширити професійний тезаурус, сформувати навички роботи з автентичними матеріалами, удосконалити професійно-орієнтовану комунікативну компетентність.

Перевагами видання є забезпечення інтенсифікації пізнавальної, інтелектуальної і творчої діяльності студентів, формування інтересу до вивчення та практичного застосування англійської мови професійного спрямування, а також доступність цього посібника в мережі Інтернет.

*Автор*

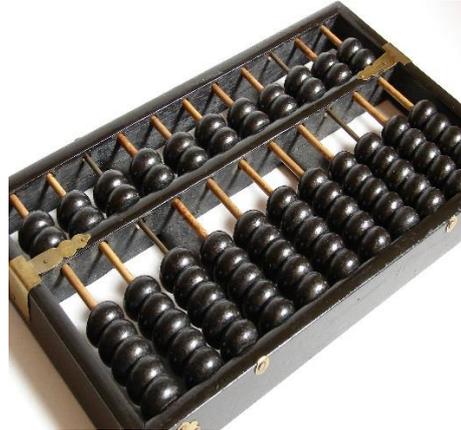
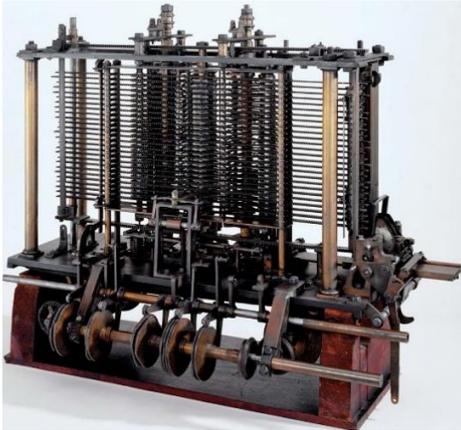
## UNIT 1

### HISTORY OF COMPUTERS

#### LEAD-IN

**1. Answer the following questions.**

1. What did the word “computer” originally mean?
2. What do these things have in common?

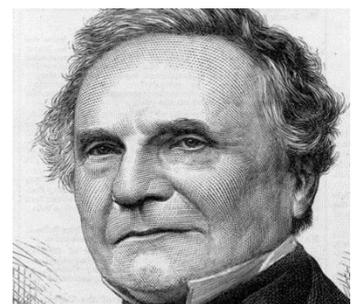


3. How many generations of computers are there?
4. What changes in computers will occur in the next 50 years?
5. For how much longer will computers continue to be developed?

#### READING

**2. a) Discuss the following questions with a partner.**

1. Who is shown in the picture?
2. What is he famous for?



**b) Now read the article and check your answers.**

#### THE FATHER OF COMPUTER

Charles Babbage was born in London on 26 December 1791, the son of Benjamin Babbage, a London banker. As a youth Babbage was his own instructor in algebra, of which he was passionately fond, and he studied at Trinity College,

Cambridge. In his twenties, Babbage developed an interest in **calculating machinery** which became his consuming passion for the remainder of his life.

In 1821, he invented the Difference Engine for **compiling** mathematical tables. On completing it, he conceived the idea of a better machine, the Analytical Engine. It was to be a **general-purpose**, fully program-controlled, automatic mechanical digital computer. It would be able to perform any calculation set before it. Before Babbage there is no evidence that anyone had ever conceived of such a device, let alone attempted to build one.

The design of the Analytical Engine was very modern; it **anticipated** the first completed general-purpose computers by about 100 years. The machine was designed to consist of four components: the mill, the store, the reader, and the printer. These components are the essential components of every computer today. The mill was the calculating unit, analogous to the central processing unit (CPU) in a modern computer; the store was where data was held prior to **processing**, exactly analogous to memory and **storage** in today's computers; and the reader and printer were the input and output devices.

Though mechanical, the Analytical Engine was an important step in the history of computers. By most definitions, it was a real computer as understood today. Its most revolutionary feature was the ability to change its **operation** by changing the instructions on **punched cards**. Until this **breakthrough** was made, all the mechanical aids to calculation were merely calculators.

However, because of financial, political, and legal issues, the Analytical Engine was never fully built. There is only a portion of Charles Babbage's Analytical Engine built at the time of his death in 1871. This portion contains the "mill" (functionally analogous to a modern computer's **central processing unit**) and a printing mechanism. Although not actually completed, it was the first machine that deserved to be called a computer.

*Adapted from <https://www.britannica.com/technology/Analytical-Engine>*

**c) Decide whether the statements given below are true (T) or false (F).**

1. Charles Babbage started studying algebra in his twenties. ....
2. Charles Babbage loathed computing machinery. ....
3. The Analytic Engine was a predecessor of the Difference Engine. ....
4. Charles Babbage tried to build the first mechanical general-purpose computer. ....
5. Charles Babbage's machine was ahead of its time. ....
6. In the Analytical Engine, the store performed the function of an input device. ....
7. The Analytical Engine contained all essentials of the present-day computers. ....
8. Instructions were entered into the Analytical Engine using punched cards. ....
9. Charles Babbage died in the 19<sup>th</sup> century. ....
10. The Analytical Engine became commercially available only after Babbage's death. ....

**d) Explain the words in bold in the text. Use a dictionary if necessary.**

## ENGLISH IN USE

**3. a) Study APPENDIX A. Then match the verbs in A with the nouns in B to make collocations.**

A	B
1. compile	a. data
2. design	b. a breakthrough
3. hold	c. calculations
4. make	d. mathematical tables
5. perform	e. a machine

**b) Now make your own sentence for each collocation.**

**4. Study APPENDIX C. Then put the verbs in brackets in the Present Simple or Present Continuous. Justify your choice.**

1. Computers ... (to be) fast, powerful, programmable and versatile machines.
2. Laptops ... (to become) faster and faster every day.

3. Computers ... (to interpret) and ... (to obey) our most bizarre commands.
4. More and more people ... (to use) wearable computers nowadays.
5. The plane with a famous computer programmer on board ... (to take off) at 7 am. tomorrow.
6. ... (she / to have) any specific preferences in brands of computers?
7. ... (you / to be) concerned that computers will make your profession obsolete in the future?
8. The technology giant ... (to monitor) our lives these days.
9. You ... (always / to misuse) computer to the detriment of your health!
10. He ... (to meet) a computer technician at 3 pm. tomorrow.

## TRANSLATION

### *5. Translate the text into your native language.*

#### **THE FIRST COMPUTER PROGRAMMER**

Ada Lovelace was the daughter of the poet Lord Byron. She was taught by Mary Somerville, a well-known researcher and scientific author, who introduced her to Charles Babbage in June 1833.

Babbage was an English mathematician, who designed the Analytical Engine. This machine was something new under the sun. It was the design of a mechanical programmable computer, which contained an ALU (Arithmetic Logic Unit), some basic flow chart principles and the concept of integrated memory.

In 1842 and 1843, Ada translated the work of an Italian mathematician, Luigi Menabrea, on Babbage's Analytical Engine. When Ada translated the article, she added a set of notes which specified in complete detail a method for calculating certain numbers with the Analytical Engine, which have since been recognized by historians as the world's first computer program.

She also saw possibilities in it that Babbage hadn't: she realized that the machine could compose pieces of music. The computer programming language 'Ada', used in some aviation and military programs, is named after her.

*Adapted from <https://bodahlbom.se/1993/11/30/1179/>*

## LISTENING

### Pre-listening activity

6. a) Match the words in A to their correct meaning in B.

A	B
1. bulky	a. having many different uses
2. input	b. a type of computer memory that can be searched in any order and changed if necessary
3. output	c. a piece of equipment that starts or stops the flow of electrical current to a machine when you push it
4. lever	d. information that is put into a computer
5. RAM (Random Access Memory)	e. a stick or handle on a machine or piece of equipment, that you move to operate it
6. ROM (Read Only Memory)	f. a device used to control the flow of electricity in computers of the 1 <sup>st</sup> generation
7. switch	g. a piece of metal in the form of a thread used for carrying electrical current or signals
8. vacuum tube	h. too big and taking up too much space
9. versatile	i. a type of computer memory that holds information that can be used but not changed or added to
10. wire	j. information produced by a computer

### While-listening activity

b) Watch the video about the history of computers available at <https://www.youtube.com/watch?v=dUZF5STprl45> and put the events below into the correct order by numbering them 1 to 7 with 1 being the earliest event and 7 being the most recent event.

1. Bulky vacuum tubes were shrunk down to a size of a single chip. ....

2. Humans were able to play chess with computers. ....
3. Electronic Numeric Integrator and Calculator was invented. ....
4. The first microprocessor was created. ....
5. A giant astronomical calculator was built. ....
6. Charles Babbage designed mechanical calculating machines. ....
7. The Abacus was invented. ....

**c) Watch the video again and answer the following questions.**

1. What was the purpose of Stonehenge?
2. When was Abacus invented? What could it do?
3. What were four parts of the machine invented by Babbage?
4. What for does the reporter use a toaster in his interview?
5. What is the basic difference between a computer and a toaster?
6. When was ENIAC built? How was the data input?
7. What is the difference between ROM and RAM?
8. What is the third type of storage?
9. What is the name of switches used in early processors?
10. Since when have microprocessors been made much smaller and powerful?

**SPEAKING**

**7. Exchange information about five generations of computers.**

*STEP 1: Study the picture in WORKSHEET A which illustrates five generations of computers that appeared from the mid-20<sup>th</sup> century.*

*STEP 2: Work in pairs. Take turns to describe each generation of computers.*



**8. a) *In groups, create a poster of a famous entrepreneur's achievements and inventions. Use the Internet if necessary.***

**b) *Present your poster to the rest of the class.***

## **WRITING**

**8. *Select one of the following inventions and write a short note on the history of its development. You may also include the pictures that show different stages of its development. Use between 120 and 180 words.***

- The Difference Engine
- Electronic Numeric Integrator and Calculator
- Vacuum tube
- Transistor
- Punched card
- Microchip
- Microprocessor
- Cell phone
- Internet
- Email

## UNIT 2

### COMPUTERS TODAY

#### LEAD-IN

1. a) *Answer the following questions.*

1. How often does an average person use computers?
2. Is being computer-literate important in today's world?
3. Do computers help to learn foreign languages? In what ways?
4. What are the main benefits of using computers?
5. What negative effects do computers have on our lives?

b) *In small groups, describe the pictures and uses of computers shown in them.*

A



B



C



D



E



F



## READING

2. a) *In pairs, discuss the following.*

1. How could computers be used in tourism?
2. Is it possible to dispense with computers in tourism?
3. Look at the title and introduction to the article. What do you think the writer's answers to his question will be?

b) *Study the list of features and uses of Google Glass in tourism. Tick (✓) those that are mentioned in the article and the paragraph where they are mentioned.*

Google Glass: features and uses	Mentioned	Para 1	Para 2	Para 3	Para 4	Para 5	Para 6	Para 7
1. mapping guidance								
2. voice recognition								
3. health advice								
4. live translation								
5. checking in a hotel								
6. video / image transfer								
7. video player								
8. music recognition								
9. weather updates								
10. e-commerce								

### COULD GOOGLE GLASS BE THE FUTURE OF TOURISM?

*We're all familiar with the value a smartphone can offer when we travel, from city guides to currency converters.*

*But what's the next big thing?*

Well, it could be Google Glass — the wearable tech that sits on your face like regular spectacles but has a tiny screen just above your eye level and connects **wirelessly** to your smartphone. Google Glass has just gone on sale in the UK — at £1,000 a pair. One travel company, [holidaysplease.co.uk](http://holidaysplease.co.uk), is lending Google Glass to selected **customers**. So, is it something that can **enhance** your holidays?

First, take note: wearing the **lensless** Google Glass makes you feel **self-conscious**. Glass doesn't fold flat like regular specs, so once it's on, you're stuck with it.

The screen is **tiny**, but big enough to see plainly when you glance upwards. So, for instance, you can use Glass as a mapping guide. It uses your smartphone's GPS sensor and displays directions with a 3D map. The right arm of the glasses has a speaker in it and a voice tells you when to turn. This is one of the most powerful uses of Google Glass, and it's smoothly, **seamlessly** done.

But there are other interesting features. You can speak to the device with commands like “OK Glass, take a photo” or “OK Glass, record a video”. You can also send photos and videos to friends by email. More usefully, the astonishing live translation app Word Lens is **available** on Google Glass. Choose the command “translate this” and the Spanish sign in front of you is transcribed into English on screen.

It's not just useful for travellers — Copenhagen airport staff are using them and Virgin Atlantic ran a pilot scheme this spring where Upper Class passengers were greeted by staff using Glass to check them in, give them weather updates, translate foreign-language text and so on.

So, do you need them? In my test, getting past the self-conscious stage was a **challenge**. Using the translation app was great, as was Shazam (“OK Glass, recognise this” to identify the music playing). And sending photos by email or reading incoming text messages was easy. But let's remember that you'll probably be using Glass abroad and for all these functions you need a mobile phone data connection, which almost certainly means expensive roaming charges.

Even so, Google Glass is fun, and offers **genuinely** useful technologies. Future versions that have better screens (it is hard to read in bright sunshine) will be worth a try.

*Adapted from Technology and Inventions (pp. 2-3), 2014, LinguaHouse E-zine. Copyright 2014 by Lingua House sp. z o.o.*

**c) Translate the words in bold in the text, then give their definitions in English. Use a dictionary if necessary.**

**d) Think of five different questions to the text. Work in pairs and ask each other.**

### ENGLISH IN USE

**3 a) Study APPENDIX A. Then match the adjectives in A with the nouns in B to make collocations.**

A	B
1. expensive	a. messages
2. future	b. tech
3. incoming	c. version
4. pilot	d. scheme
5. wearable	e. charges

**b) Now make your own sentence for each collocation.**

**4. Study APPENDIX B. Then use the word in capitals to form a word that fits in the spaces.**

#### HOW COMPUTERS ENTERTAIN

Today, computers are used in a variety of areas for  
 1) ..... purposes. The technology is used for  
 streaming and watching videos, listening to downloads of music,  
 playing video games and keeping track of one's  
 2) ..... during camping or hiking trips. GPS

**ENTERTAIN**

**LOCATE**

tracking devices are 3) ..... used for nature walks, locating golf balls or finding locations for restaurants and vacation sites. The journal “Entertainment Computing” demonstrates that entertainment computing is at the centre of mainstream activities today. The publication regularly covers game news that reviews such topics as 4) ..... media for entertainment, robots and 5) ..... interfaces. Entertainment system architectures and the impact of entertainment technology are covered as well. Integration of multimedia 6) ..... are discussed, as is 7) ..... broadcasting. The journal also focuses on the upcoming genres of entertainment technologies. According to the computer-aided design site, IndiaCADWorks, CAD software is being used in 8) ..... areas of entertainment computing, including game design and development and preproduction and editing. Special effects can be incorporated with the software, and colour 9) ..... is also utilized. The site says that Autodesk software provides a number of packages in its line-up that are 10) ..... used for entertainment technologies.

**FREQUENCY**

**DIGIT**

**APPLY**

**CAPABLE**

**ACTIVE**

**VARY**

**RICH**

**REGULAR**

*Retrieved from [https:// www.reference.com/history/computers-used-entertainment-6d1602585f22be68](https://www.reference.com/history/computers-used-entertainment-6d1602585f22be68)*

**5. Study APPENDIX C. Then find Present Simple or Present Continuous mistakes in the sentences. Correct the sentences.**

1. Computers are almost part of a business setup because they increases productivity and helps race in a competitive environment.
2. More and more organizations, from the government to the private sector, use the computer.
3. Freelancers are usually working remotely. Why leave the comfort of your home if you are having a computer and an Internet connection?
4. Computers increasingly change the methods of diagnosis in hospitals.

5. Teachers are using computers to create tests, give presentations and make their lessons more illustrative.
6. The well-known IT conference is starting at 10 am tomorrow.
7. Does you use your computer every day?
8. The number of computer-literate people constantly increases.
9. Helen is being very busy. Right now she launches her ambitious IT project.
10. He sees a renowned data scientist on Monday.

## TRANSLATION

### **6. Translate the sentences into your native language.**

1. Almost every business uses computers nowadays. They store and maintain accounts, personnel records, manage projects, track inventory, create presentations and reports.
2. Healthcare continues to be revolutionized by computers. As well as digitized medical information making it easier to store and access patient data, complex information can also be analyzed by software to aid discovery of diagnoses. Computers control lab equipment, heart rate and blood pressure monitors.
3. Various government departments use computers to improve the quality and efficiency of their services. Examples include city planning, law enforcement, traffic, and tourism. Computers can be used to store information, promote services, as well as for routine administrative purposes.
4. Scientists were one of the first groups to adopt computers as a work tool. In science, computers can be used for research, sharing information with other specialists both locally and internationally, as well as collecting, categorizing, analyzing, and storing data. Computers also play a vital role in launching, controlling, and maintaining space craft, as well as operating other advanced technology.
5. Computers can be used to design any type of publication. These might include newsletters, marketing materials, fashion magazines, novels, or newspapers. Computers are used in the publishing of both hard-copy and e-books. They are also used to market publications and track sales.

*Retrieved from <https://turbofuture.com/computers/7-Uses-of-Computers>*

## LISTENING

### Pre-listening activity

7. a) *In pairs, discuss the following.*

1. What is de-skilling?
2. How does de-skilling relate to the use of computers?

b) *Match the words in italics with their definitions.*

<i>avoid   empathy   fade   Global Positioning System (GPS)   perspective reliant   social media   sophisticated   spellchecker</i>	
1.	a. dependent on someone or something
2.	b. a way of thinking about something
3.	c. social networking sites
4.	d. the ability to understand other people's feelings and problems
5.	e. gradually disappear
6.	f. a system that uses radio signals from satellites to show your exact position on the Earth on a special piece of equipment
7.	g. try not to do something, or try to stay away from something:
8.	h. a computer program that checks if the spelling in a computer document is correct
9.	i. very advanced; intelligent or made in a complicated way and therefore able to do complicated tasks.

### While-listening activity

c) *Now listen to Rob and Neil talking about some applications of computers in our everyday lives (go to <https://www.bbc.co.uk/learningenglish/features/6-minute-english/122150>). Note five uses and features of computers that the speakers mention.*

1. ....
2. ....
3. ....
4. ....
5. ....

**d) Listen to the recording again and complete the following sentences.**

1. An app is short for an application, which is a computer program .....
2. The ability of computers to do things we used to do ..... and we're rushing to hand over to computers tasks, activities – both in our .....
3. GPS, the Global Positioning System, gives us directions with the help of .....
4. A spellchecker is a very useful piece of software which helps us avoid making spelling mistakes .....
5. Computers are here to stay and they'll become ....., but we have to remember they are just tools.

## **SPEAKING**

**8. Do you agree or disagree with the quotations below? Why (not)? Discuss in small groups.**

- “One machine can do the work of fifty ordinary men. No machine can do the work of one extraordinary man.” – Elbert Hubbard.
- “TV and the Internet are good because they keep stupid people from spending too much time out in public.” – Douglas Coupland.

## **WRITING**

**9. a) Visit <https://learnenglishteens.britishcouncil.org/skills/writing/intermediate-b1-writing/opinion-essay> and study tips for writing an opinion essay.**

**b) Write an opinion essay on the topic: “Computers: a blessing or a curse?” Use between 120 and 180 words.**

## UNIT 3

### TYPES OF COMPUTER

#### LEAD-IN

1. a) *Look at the pictures and name the types of computer they show.*

A



B



C



D



E



F



b) *In pairs, discuss the following questions.*

1. What is your favourite type of computer? Why?
2. What type of computer do you have now?
3. What type of computer would you like to have in the future?

## READING

### 2. a) *Discuss the following with a partner.*

1. Is there any difference between a personal computer and a desktop computer?
2. What is meant by the term “convergence” in relation to computer types?

### b) *Now read the article and check your answers.*

### c) *Read the article again and choose from the sentences (A-F) the one which fits each gap.*

A. But not all types of computer are so obvious as the ones above.

B. For the first time in history, computers were now for everyone. The PC started a revolution which affects nearly everything we do today.

C. Keep in mind, however, that the lines between computer types are constantly being blurred.

D. Many people still mistakenly believe the term PC is synonymous with a desktop computer running Windows.

E. These include: mainframes, minicomputers, IBM clones.

F. This was thanks to companies, which mass-produced computers and promoted them to businesses to do things like payroll, accounting, and other number-crunching tasks.

## RECOGNIZING DIFFERENT TYPES OF COMPUTER

Sixty years ago, computers (such as ENIAC) were bulky. They were difficult to use and cost a lot of money. So computers were only used by large organizations. Throughout the 1960s, computers captured the public’s imagination in literature and TV. More and more companies wanted computers. As a result, computers gradually became smaller, cheaper, more versatile, and practical to own. 1. ...

In the 1980s, a new type of computer started to gain in popularity. It was called the PC or personal computer. 2. ... PCs are everywhere you look today. At home, at the office, and everywhere in between.

3. ... This is not really true as any computer you use by yourself for general purposes could be called a PC: laptop, desktop computer, PDA or personal digital assistant, workstation.

Besides PCs, there are other types of computer you probably see at work or school. These include: file servers, print servers, web servers.

4. ... There are still other kinds of computer that fit inside of other devices and control them. These computers are known as embedded systems. Embedded systems can be found in traffic lights, TV sets, refrigerators, coffee machines and many more devices. Embedded systems are typically controlled by inexpensive, specialized processors which can only handle very specific tasks.

Types of computer go in and out of fashion as times changes. Older kinds of computer which were very popular in the 20th century (1900's) are now referred to as legacy systems. 5. ...

New types of computer are always coming out and replacing or augmenting existing computer types. Examples of relatively recent types of computer would be netbooks, tablet, and wearable computers. 6. ... This phenomenon is known as convergence.

*Adapted from <https://www.english4it.com/module/core/unit/10/reading>*

**b) Match the highlighted words in the text to the synonyms below.**

- |                      |                           |
|----------------------|---------------------------|
| 1. adding to .....   | 6. handheld .....         |
| 2. caught .....      | 7. heavy .....            |
| 3. distinct .....    | 8. merging .....          |
| 4. erroneously ..... | 9. multi-functional ..... |
| 5. fuzzy .....       | 10. particular .....      |

**d) Summarize the article. Use between 120 and 180 words.**

- For tips on effective summary writing, visit <https://write.siu.edu/common/documents/handouts/summarizing.pdf>
- For a sample summary, visit <http://summary-writing.blogspot.com/p/with-invention-oftelevisions-many-forms.html>

## LANGUAGE FOCUS

**3. a)** *Unscramble the letters in A to create the name of a specific computer type. Use the article in 2b if necessary.*

**b)** *Match the unscrambled terms in A with their definitions in B.*

Term	Definition
1. vrsree	a) a portable computer shaped in the form of a notebook and capable of advanced handwriting recognition via use of a stylus or on-screen keyboard.
2. tlateb CP	b) a high quality computer, typically with lots of RAM, plenty of CPU power, and a high quality video card.
3. torkotnaswi	c) a type of computer intended primarily for central distribution of data to other computers on the same network.
4. demdedbe ytmsse	d) a specialized computer which connects two networks.
5. yaelcg stmesy	e) a handheld computer about the size of wallet used as an organizer, web browser, game machine, mobile phone, or message recorder; also known as a handheld computer.
6. btoonke	f) a physical or software device connecting and facilitating a network with a printer.
7. DPA rseapnlo dtalgii ssiastatn	g) a small laptop with less powerful components meant for surfing the web, reading email, and other basic tasks.
8. nript reersv	h) an older device or application that continues to be used because of the high cost of replacing it.
9. rorteu	i) a computer using a relatively slow and specialized processor and ROM chip, normally used to control a particular device such as a washing machine or an MP3 player.

**c)** *Translate the terms in 3b into your native language.*

**4. a)** Study the following adjectives and tick (✓) the correct category in the table below.

Adjective	Positive	Negative	Adjective	Positive	Negative
1. advanced			14. obsolete		
2. buggy			15. outdated		
3. clunky			16. powerful		
4. convenient			17. seamless		
5. cutting-edge			18. smooth		
6. efficient			19. sophisticated		
7. glitchy			20. state-of-the-art		
8. handy			21. top-notch		
9. impractical			22. useless		
10. indispensable			23. user-friendly		
11. invaluable			24. versatile		
12. leading-edge			25. vulnerable		
13. lightweight			26. worthless		

**b)** In pairs, decide which adjectives best describe the types of computer in 3a. Give reasons.

## ENGLISH IN USE

**5. a)** Study the expressions in bold. What are they used for? Then see APPENDIX A to check your answers.

- Depending on the ways the data can be handled computers are **classified into three categories**: analog, digital and hybrid.
- Digital computers are used by companies to perform tasks that **include** payroll, accounting and number-crunching.
- Digital computers can be generally **classified by** size and performance.
- There are five types of** digital computers.
- Embedded systems are a type of** digital computers.

**b) Work with WORKSHEET B. In pairs, describe the diagram using the classifying expressions from APPENDIX A. Elaborate on each type of computer. Use the Internet if necessary.**

**6. Study APPENDIX D. Then put the verbs in brackets in the Present Perfect or Present Perfect Continuous. Justify your choice.**

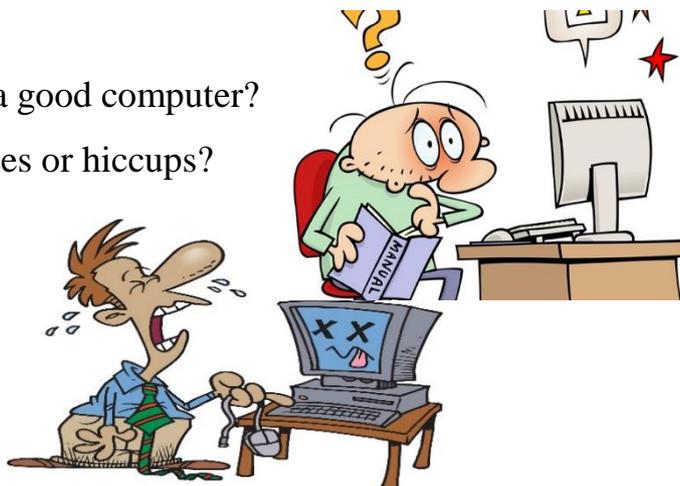
1. Computers ... (to change) communication as we know it.
2. Liza ... (to have) this buggy netbook since 2008.
3. Email correspondence ... (to replace) traditional letter writing.
4. Lucy... (to try) to boot up her desktop PC all morning.
5. Laptops ... (to make) it easier to connect with people from all over the world just with the click of a mouse.
6. Mrs Smith is upset. Her tablet PC ... (to act up) since lunchtime.
7. Rob ... (to repair) my laptop.
8. I feel exhausted as I ... (to work) on my IT assignment all night.
9. He ... (to be) to the computer shop twice this morning.
10. We ... (just/ to finish) our project on types of computer.

## LISTENING

### Pre-listening activity

**7. a) In pairs, discuss the following.**

1. What features are you looking for in a good computer?
2. What happens when a computer freezes or hiccups?
3. Have you ever been at your wit's end trying to get your computer to work?



**b) Explain the words and phrases in the list. Use a dictionary if necessary.**

Word	Definition
1. approximate	
2. clutter	
3. hostage	
4. queue	
5. sleek	
6. spyware	
7. third-party programs	
8. ultimate	
9. warranty	
10. zillion	

**While-listening activity**

**c) Listen to the recording about buying a computer (go to <https://www.esl-lab.com/intermediate/sales/>) and mark the following statement as true (T) or false (F).**

1. The caller’s approximate waiting time is 57 minutes. .....
2. The caller’s computer wasn’t covered by the warranty. .....
3. The caller’s computer is cluttered with third-party programs. .....
4. The caller is seeking for help because he is annoyed with his computer’s performance. .....
5. The caller got the help he was looking for. .....

**d) Listen to the recording again and complete the following sentences.**

1. I bought one of your laptop computers about three weeks ago, but it just .....
2. Well, first of all, the thing always freezes and has crashed .....
3. It’s going to take us a minute or so to .....

4. If your computer is holding your hostage and you can't get ....., then call Turbo Command.
5. Call us today or visit our Website for more information, and let us introduce you to the .....

## SPEAKING

**8. A crime was reported last night. A computer shop was broken into. Although there was a plethora of computers of every imaginable type, only one wearable computer and three state-of-the-art laptops were stolen. Look at the objects in the pictures. In small groups, decide how these objects are related to the incident reported. What do you think happened?**



## WRITING

- 9. a) Visit <https://learnenglish.britishcouncil.org/skills/writing/intermediate-b1/an-email-giving-holiday-advice> and study tips on writing an advice email.**
- b) Your friend is a university student who majors in IT. He has asked you to recommend a computer that will suit his needs. Write an advice email. Use between 120 and 180 words.**

## REVISION

### VOCABULARY

#### 1. *Expand the following abbreviations:*

1. ALU .....
2. PDA .....
3. GPS .....
4. ROM .....
5. RAM .....

**Total \_\_\_ / 10**

#### 2. *Write definitions of the words below.*

Word	Definition
1. Breakthrough	
2. Central Processing Unit	
3. Convergence	
4. De-skilling	
5. Embedded system	
6. Sophisticated	
7. Spyware	
8. Third-party programs	
9. Versatile	
10. Wirelessly	

**Total \_\_\_ / 20**

#### 3. *Put the following adjectives into the correct categories below.*

<i>advanced   buggy   convenient   glitchy   indispensable   obsolete</i> <i>seamless   sophisticated   user-friendly   versatile</i>
--

Positive: .....

Negative: .....

**Total \_\_\_ / 10**

## TRANSLATION

4. Translate the words in A into your native language.

Word	Translation
1. augment	
2. enhance	
3. genuinely	
4. legacy system	
5. tiny	
6. виклик / проблема	
7. вбудований	
8. громіздкий	
9. доступний	
10. клієнт	

Total \_\_\_ / 20

## ENGLISH IN USE

5. Match A to B to form collocations. Then define the type of each collocation (e.g. verb + preposition, verb + noun, etc.).

A	B	Type
1. compile	a. scheme	
2. incoming	b. tech	
3. make	c. mathematical tables	
4. pilot	d. messages	
5. wearable	e. a breakthrough	

Total \_\_\_ / 5

6. Identify the tenses in A, then match them to the correct descriptions in B.

A	B
1. The plain to Rome <i>takes off</i> at 11 am.	a. fixed arrangements in the near future

2. I <i>have watched</i> two IT tutorials this morning.	b. to express criticism or annoyance about frequently repeated action
3. They <i>are visiting</i> an annual IT conference on Friday.	c. changing or developing situations
4. You <i>are always interrupting</i> me.	d. to put an emphasis on the duration of an action which started in the past and continues up to the present
5. George <i>has bought</i> a new laptop.	e. general truths or laws of nature
6. More and more people <i>are choosing</i> tablets over laptops.	f. timetables or programs
7. John <i>has been troubleshooting</i> the customer's computer all morning.	g. action which happened at an unstated time in the past
8. Humans <i>are</i> mammals.	h. action which happened within a specific time period that is not over at the moment of speaking

**Total** \_\_\_ / 16

## READING

### 7. Match the picture in A to the correct device description in B.

**A**



**1**

**a.** Which computer you choose will depend on what you want to do with it. If you need to spend a lot of time at your computer, or you like to play the latest games, then you really need a large computer under your desk and a monitor (or two) on the desk along with a mouse and a good keyboard.

**B**



**2**

**b.** After smartphones, these computers are weakest in power and performance. However, they can run all day, and are suitable for emails, and watching multimedia. Many of them come with Bluetooth keyboards, so you can even do a lot of typing on them. You can carry them in a handbag or in a briefcase, so they can

stay with you all day, and they have another advantage – they can turn on and off instantly.



**3**

**c.** These are actually small computers that can do more than some desktops could do a few years ago. They can screen television and video from the Internet, and can be used for communication through social media and text messages. They have address books, can take pictures and video and can be used to read e-books. You use them as telephones as well.



**4**

**d.** This computer is a compromise. It tries to be powerful as well as light and portable, but it ends up as something in between. The screen of this computers is less suitable for extensive use and the keyboard is cramped. Another disadvantage of these computers is that their parts are not easily replaceable. However, they can be carried in a briefcase or backpack.

*Adapted from <https://www.english-online.org.uk/comp/comp29.htm>*

**Total \_\_\_ / 8**

## **WRITING**

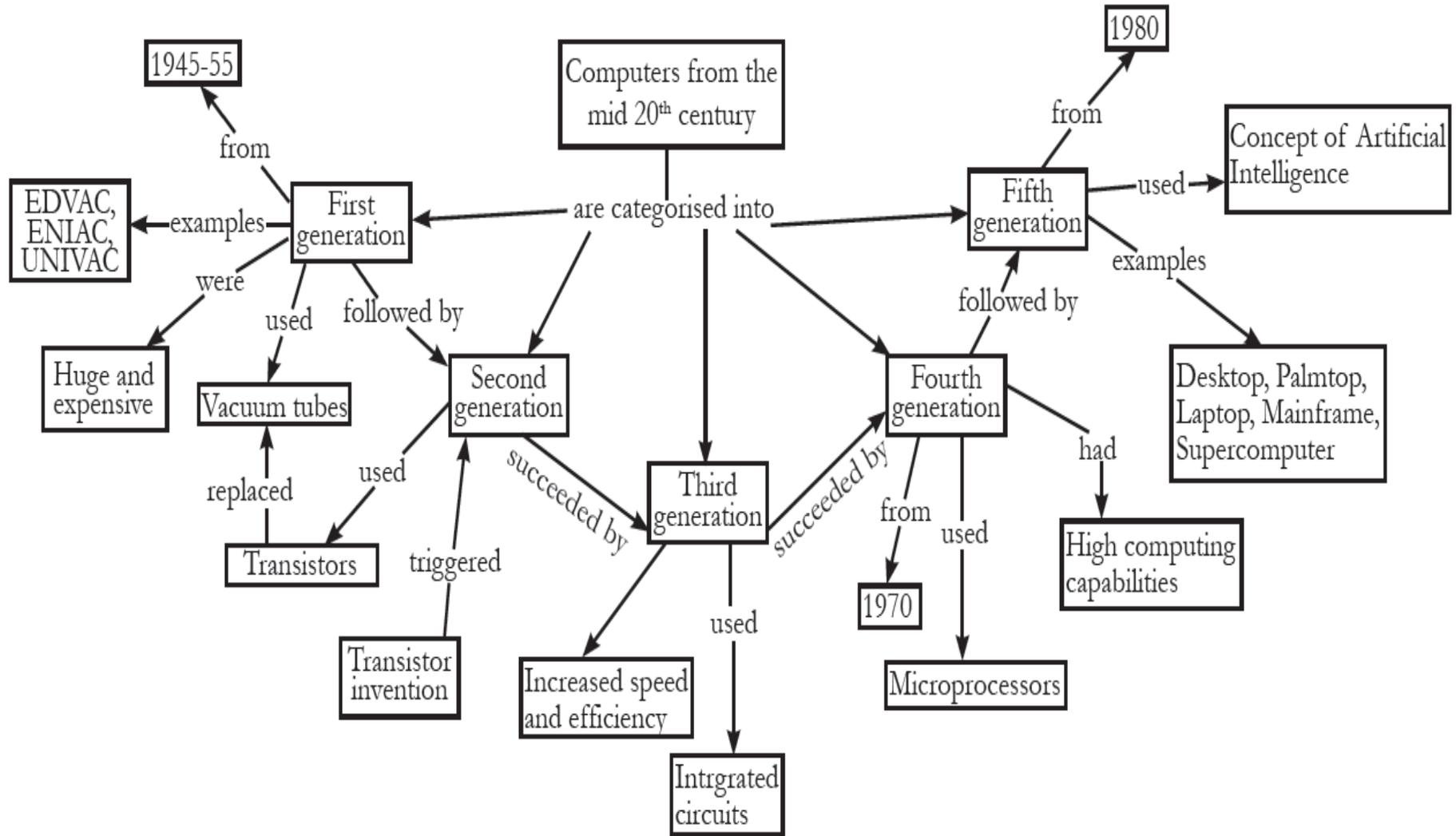
**8.** *Describe different types of computer available on the market today. Use between 120 and 180 words.*

**Total \_\_\_ / 11**

**TOTAL \_\_\_ / 100**

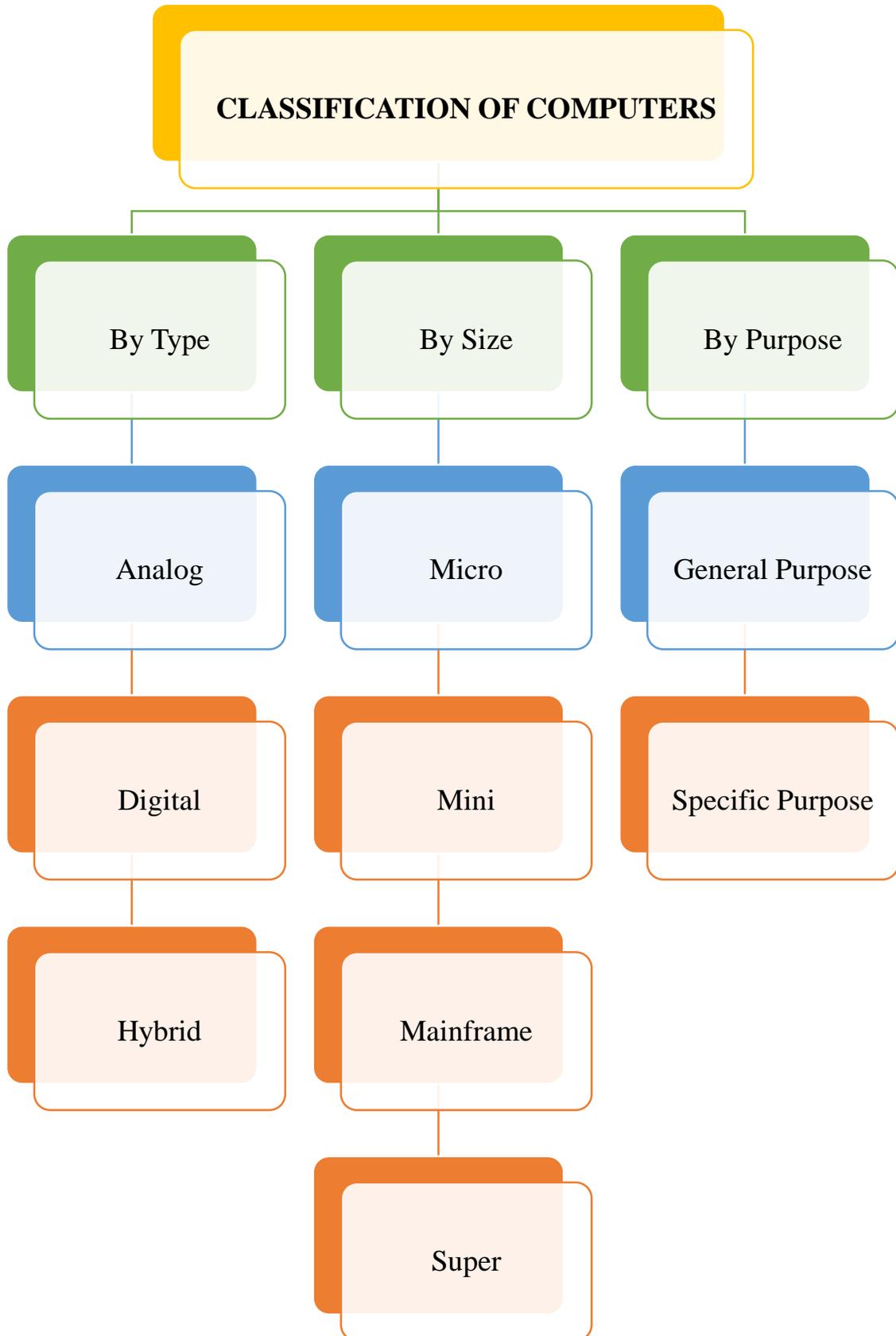
## WORKSHEET A

*In pairs, study the picture which illustrates five generations of computers that appeared from the mid-20<sup>th</sup> century. Take turns to describe each generation.*



## WORKSHEET B

*In pairs, describe the diagram using the classifying expressions from APPENDIX A. Elaborate on each type of computer. Use the Internet if necessary.*



## COLLOCATIONS AND CLASSIFYING EXPRESSIONS

## COLLOCATIONS

*Collocation* is a combination of two or more words that are often used together in a way that sounds correct. Some typical collocations are:

- 1) **noun + verb**, e.g. perform operations, display data, store information etc;
- 2) **adjective + noun**, e.g. historic breakthrough, technological advances, detailed research etc;
- 3) **adverb + adjective**, e.g. actively involved, highly impressed, perfectly clear etc.

## CLASSIFYING EXPRESSIONS

*Classifying expressions* are expressions used to put things into groups or classes, hence their name. Some typical classifying expressions are:

- 1) X is / are classified into Y types;
- 2) X can be divided into Y categories;

*Depending on the ways the data can be handled computers **are** basically **divided into** three **categories**: analog, digital and hybrid.*

- 3) X can be classified by ... ;

*Digital computers **can be classified by** size and performance.*

- 4) X includes / consists of Y;

*Digital computers are used by companies to perform tasks that **include** payroll, accounting and number-crunching.*

- 5) There are Y classes of X;

*There are **five classes of** digital computers.*

- 6) Y is a type of X.

*Embedded systems are a **type of** digital computers.*

**WORD FORMATION**

There are two main types of word formation that may come in handy in word formation tasks. They are:

- prefixation – adding a prefix to the beginning of a word;
- suffixation – adding a suffix to the end of a word.

Before filling the gap, scrutinize the sentence to identify the part of speech required (verb, noun, adjective, adverb). Then fill the gap with the correct form of the stem word. Here is the list of common word-forming suffixes and prefixes.

**COMMON SUFFIXES**

<b>NOUN SUFFIXES</b>		
<b>Suffix</b>	<b>Meaning</b>	<b>Example</b>
-acy	<i>state or quality</i>	accuracy
-al	<i>act or process of</i>	approval
-ance /-ence	<i>state or quality of</i>	guidance, convenience
-dom	<i>state or place of being</i>	wisdom, kingdom
-ee	<i>one who is affected by an action</i>	employee
-er/-or	<i>one who performs and action</i>	employer, supervisor
-hood	<i>state or condition</i>	childhood
-ism	<i>doctrine, belief</i>	skepticism
-ist	<i>one who</i>	specialist
-ity/-ty	<i>quality, condition degree</i>	responsibility, safety
-ment	<i>condition of</i>	punishment
-ness	<i>state of being</i>	usefulness
-ry	<i>the group or state of, the state or character of</i>	gadgetry, bravery
-ship	<i>position held</i>	professorship
-sion/-tion	<i>state of being</i>	comprehension, ambition
-ware	<i>refers to objects of the same material or type</i>	software

<b>ADJECTIVE SUFFIXES</b>		
<b>Suffix</b>	<b>Meaning</b>	<b>Example</b>
-able /-ible	<i>capable of being</i>	portable, flexible
-al	<i>having characteristics of</i>	digital
-ant	<i>inclined to or tending to</i>	reliant
-en	<i>made of</i>	wooden
-esque	<i>reminiscent of</i>	picturesque
-ese	<i>of a country or city</i>	Portuguese
-ful	<i>full of</i>	useful
-ic; ical	<i>pertaining to</i>	domestic, musical
-ing	<i>used to form participial adjectives</i>	growing
-ish	<i>having the quality of</i>	girlish
-ive	<i>having the nature of</i>	creative
-less	<i>without</i>	worthless
-ly	<i>having the nature or qualities of, occurring at certain intervals</i>	friendly, hourly
-ous	<i>characterized by</i>	hazardous
-y	<i>characterized by</i>	clunky
<b>VERB SUFFIXES</b>		
<b>Suffix</b>	<b>Meaning</b>	<b>Example</b>
-ate	<i>become</i>	allocate
-en	<i>become</i>	strengthen
-ify	<i>become</i>	solidify
-ise (Br) / -ize (Am)	<i>make or become</i>	organize / organize
<b>ADVERB SUFFIXES</b>		
<b>Suffix</b>	<b>Meaning</b>	<b>Example</b>
-ly	<i>in a certain manner</i>	<i>quickly</i>
-ward(s)	<i>indicating the direction towards</i>	<i>upwards</i>
-wise	<i>in a specified manner, direction, position</i>	<i>clockwise</i>

## COMMON PREFIXES

Prefix	Meaning	Example
ab-	<i>opposed to</i>	abnormal
anti-	<i>against, opposite of</i>	antisocial
auto-	<i>self</i>	autobiography
de-	<i>make the opposite of or reverse</i>	decrease
co-	<i>together, with</i>	co-worker
dis-	<i>opposite of, reverse or remove</i>	dissimilar, disarrange
en-	<i>put into</i>	encase
ex-	<i>former</i>	ex-president
extra-	<i>beyond</i>	extraordinary
hyper-	<i>extreme</i>	hyperactive
il-, im-, in-, ir-	<i>not</i>	illegal, impartial, inadequate, irreversible
in-	<i>into</i>	infiltrate
inter-	<i>between</i>	interaction
mis-	<i>incorrectly</i>	misinterpret
non-	<i>not</i>	non-existent
over-	<i>too much</i>	overcharge
out-	<i>go beyond</i>	outwit
post-	<i>after</i>	post-war
pre-	<i>before</i>	preproduction
re-	<i>again</i>	recalculate
sub-	<i>under</i>	subcategory
super-	<i>beyond</i>	supernatural
tele-	<i>at a distance</i>	telemedicine
trans-	<i>across, over, through</i>	transfer, transcontinental
ultra-	<i>extremely</i>	ultrathin
un-	<i>remove, not</i>	uncover, unable
under-	<i>beneath, less than</i>	underground, undersized
up-	<i>make or move higher</i>	upgrade

**PRESENT SIMPLE VS PRESENT CONTINUOUS**

PRESENT SIMPLE	PRESENT CONTINUOUS
<b>AFFIRMATIVE</b>	
I / we / you / they <b>study</b> . He / she / it <b>studies</b> .	I <b>am studying</b> . He / she / it <b>is studying</b> You / they / we <b>are studying</b> .
<b>NEGATIVE</b>	
I / we / you / they <b>do not (don't) study</b> . He / she / it <b>does not (doesn't) study</b> .	I <b>am not studying</b> . He / she / it <b>is not (isn't) studying</b> You / they / we <b>are not (aren't) studying</b> .
<b>INTERROGATIVE</b>	
<b>Do</b> I / we / you / they study? <b>Does</b> he / she / it study?	<b>Am</b> I studying? <b>Is</b> he / she / it studying? <b>Are</b> you / they / we studying?
<b>TIME EXPRESSIONS</b>	
every day / week / month / year, in the morning/ evening/ afternoon, at night, usually, often, rarely, never, on Mondays etc	now, at the moment, at present, nowadays, today, tonight, these days etc
<b>We use it:</b>	
1) for permanent states, repeated or habitual actions: <i>John works for an IT company.</i>	1) for actions happening at or around the moment of speaking: <i>She is reading the book now.</i> <i>She is reading a lot of books these days.</i>
2) for general truths and laws of nature: <i>Humans are mammals.</i>	2) for changing or developing situations: <i>He is getting smarter and smarter.</i>
3) for timetables and programs: <i>The first bus to Kyiv leaves at 5 am.</i>	3) for fixed arrangements in the near future: <i>We are visiting my uncle on Thursday.</i>
4) for reviews, sports commentaries, narration: <i>Finally, she finds her mother and they live happily ever after.</i>	5) with always, constantly, continuously to express irritation, annoyance, criticism about frequently repeated actions: <i>You are always interrupting me!</i>

**PRESENT PERFECT VS PRESENT PERFECT CONTINUOUS**

PRESENT PERFECT	PRESENT PERFECT CONTINUOUS
<b>AFFIRMATIVE</b>	
I / we / you / they <b>have studied.</b> He / she / it <b>has studied.</b>	I / we / you / they <b>have been studying.</b> He / she / it <b>has been studying</b>
<b>NEGATIVE</b>	
I / we / you / they <b>have not (haven't) studied.</b> He / she / it <b>has not (hasn't) studied.</b>	I / we / you / they <b>have not (haven't) been studying.</b> He / she / it <b>has not (hasn't) been studying</b>
<b>INTERROGATIVE</b>	
<b>Have</b> I / we / you / they studied? <b>Has</b> he / she / it studied?	<b>Have</b> I / we / you / they been studying? <b>Has</b> he / she / it been studying?
<b>TIME EXPRESSIONS</b>	
already, ever, for, just, never, since, so far, today, this week / month, lately, recently etc	for, since, how long, lately, recently
<b>We use it:</b>	
1) for an action which happened within a specific time period which is not over at the moment of speaking: <i>Lucy has read three books today.</i>	1) to put an emphasis on the duration of an action that started in the past and continues up to the present: <i>She has been watching TV all morning.</i>
2) for actions that started in the past and continue up to the present (especially with stative verbs such as be, have, know etc): <i>Sarah has known John since 2005.</i>	2) for past actions of certain duration with visible result in the present: <i>He has been working out. That's why he is so fit.</i>
3) for recently completed actions whose result is visible in the present: <i>He has just finished installing a new desktop PC. It looks great!</i>	3) to express anger, irritation, annoyance criticism: <i>Who has been reading my reports?</i>
4) for personal experiences or changes: <i>She has cut her hair.</i>	
5) for actions which happened at an <u>unstated</u> time in the past: <i>She has bought a laptop.</i>	
NB! The Present Perfect is used to put emphasis on number: <i>She has painted three pictures.</i>	NB! The Present Perfect Continuous is used to put emphasis on duration: <i>She has been painting pictures for three hours.</i>

## WORD LIST

### UNIT 1

<i>Abacus</i>	<i>loath</i>
<i>aid</i>	<i>mainframe</i>
<i>Analytical Engine</i>	<i>merely</i>
<i>anticipate</i>	<i>military</i>
<i>available</i>	<i>mill</i>
<i>be fond of (sb / sth)</i>	<i>misuse</i>
<i>bizarre</i>	<i>obsolete</i>
<i>breakthrough</i>	<i>output devices</i>
<i>bulky</i>	<i>palmtop</i>
<i>compile</i>	<i>passion</i>
<i>conceive the idea of (sth)</i>	<i>pioneer</i>
<i>consuming</i>	<i>predecessor</i>
<i>desktop</i>	<i>programmable</i>
<i>detriment</i>	<i>punched card</i>
<i>Difference Engine</i>	<i>reader</i>
<i>digital</i>	<i>remainder</i>
<i>electrical current</i>	<i>store</i>
<i>evidence</i>	<i>supercomputer</i>
<i>general-purpose</i>	<i>switch</i>
<i>generation</i>	<i>have preferences in (sth)</i>
<i>input devices</i>	<i>vacuum tube</i>
<i>integrated circuit</i>	<i>versatile</i>
<i>issue</i>	<i>wearable computer</i>
<i>laptop</i>	<i>wire</i>
<i>lever</i>	

## UNIT 2

<i>astounding</i>	<i>seamlessly</i>
<i>average</i>	<i>self-conscious</i>
<i>avoid</i>	<i>smoothly</i>
<i>be familiar with (sth)</i>	<i>social media</i>
<i>broadcasting</i>	<i>sophisticated</i>
<i>challenge</i>	<i>spectacles</i>
<i>competitive</i>	<i>spellchecker</i>
<i>computer-literate</i>	<i>stream</i>
<i>customers</i>	<i>tiny</i>
<i>de-skilling</i>	<i>reliant on (sb / sth)</i>
<i>diagnosis</i>	<i>dispense with (sth)</i>
<i>e-commerce</i>	<i>tracking device</i>
<i>empathy</i>	<i>transfer</i>
<i>enhance</i>	<i>utilize</i>
<i>fade</i>	<i>weather updates</i>
<i>genuinely</i>	<i>wirelessly</i>
<i>glance</i>	
<i>guidance</i>	
<i>hiking</i>	
<i>incoming</i>	
<i>keep track of (sb / sth)</i>	
<i>lend</i>	
<i>lensless</i>	
<i>mainstream</i>	
<i>perspective</i>	
<i>plainly</i>	
<i>recognition</i>	
<i>remotely</i>	
<i>roaming charge</i>	

### UNIT 3

<i>accounting</i>	<i>legacy system</i>
<i>advanced</i>	<i>lightweight</i>
<i>approximate</i>	<i>mistakenly</i>
<i>augment</i>	<i>netbook</i>
<i>be at your wit's end</i>	<i>number crunching</i>
<i>blurred</i>	<i>obvious</i>
<i>buggy</i>	<i>outdated</i>
<i>capture imagination of (sb)</i>	<i>payroll</i>
<i>clunky</i>	<i>plethora of (sth)</i>
<i>clutter</i>	<i>promote</i>
<i>computer hiccups</i>	<i>queue</i>
<i>constantly</i>	<i>replace</i>
<i>convenient</i>	<i>seek for (sb / sth)</i>
<i>convergence</i>	<i>sleek</i>
<i>correspondence</i>	<i>sophisticated</i>
<i>cutting-edge</i>	<i>spyware</i>
<i>embedded system</i>	<i>state-of-the-art</i>
<i>fuzzy</i>	<i>tablet</i>
<i>gain in popularity</i>	<i>third-party programs</i>
<i>glitchy</i>	<i>top-notch</i>
<i>gradually</i>	<i>ultimate</i>
<i>handle tasks</i>	<i>useless</i>
<i>handy</i>	<i>user-friendly</i>
<i>hostage</i>	<i>versatile</i>
<i>impractical</i>	<i>vulnerable</i>
<i>indispensable</i>	<i>warranty</i>
<i>invaluable</i>	<i>worthless</i>
<i>leading-edge</i>	<i>zillion</i>

## LIST OF ABBREVIATIONS

3D	Three-dimensional
ALU	Arithmetic Logic Unit
CAD	Computer Aided Design
CPU	Central Processing Unit
EDVAC	Electronic Discrete Variable Automatic Computer
ENIAC	Electronic Numeric Integrator and Calculator
GPS	Global Positioning System
IT	Information Technology
MP3	MPEG-1 Layer-3 Audio
PC	Personal Computer
PDA	Personal Digital Assistant
RAM	Random Access Memory
ROM	Read Only Memory
UNIVAC	UNIVersal Automatic Computer

## ANSWER KEYS

### UNIT 1

#### 1. Open task

##### 2 a.

1. The picture shows Charles Babbage.
2. He is an English mathematician who designed the Analytical Engine.

##### 2 c.

- |      |       |
|------|-------|
| 1. F | 6. F. |
| 2. F | 7. T  |
| 3. F | 8. T  |
| 4. T | 9. T  |
| 5. T | 10. F |

##### 2 d.

1. *Calculating machinery* is machines for performing arithmetical operations.
2. *To compile* is to collect information together and write it into a list, report book etc.
3. *General-purpose* is suitable to be used for two or more basic purposes.
4. *To anticipate* is to act in advance of somebody (something) or do something before someone else.
5. *Processing* is the use of information, figures etc to produce a particular result.
6. *Storage* is the means by which information is kept on a computer.
7. *Operation* is the way the parts of a machine or system work together, or the process of making a machine or system work.
8. *Punched cards* are cards with holes in patterns that represent information.
9. *Breakthrough* is an important discovery or event that helps to improve a situation or provide an answer to a problem.
10. *Central Processing Unit* is the part of a computer that controls other parts.

##### 3 a.

- |      |      |
|------|------|
| 1. d | 4. b |
| 2. e | 5. c |
| 3. a |      |

##### 3 b. Open task

#### 4.

1. are – *permanent states*
2. are becoming – *changing or developing situations*
3. interpret, obey – *permanent states, repeated actions, routines*
4. are using – *changing or developing situations*
5. takes off – *timetables, programs*
6. Does she have – *permanent states*
7. Are you – *permanent states*
8. is monitoring – *actions taking place around the moment of speaking*
9. you are always misusing – *to express irritation, annoyance, criticism*
10. is meeting – *fixed arrangement in the near future*

5. Open task

 6 a.

- |      |       |
|------|-------|
| 1. h | 6. i  |
| 2. d | 7. c  |
| 3. j | 8. f  |
| 4. e | 9. a  |
| 5. b | 10. g |

 6 b.

- |      |      |
|------|------|
| 1. 5 | 5. 1 |
| 2. 7 | 6. 3 |
| 3. 4 | 7. 2 |
| 4. 6 |      |

 6 c.

1. It was a giant astronomical calculator.
2. Abacus was invented 5000 years ago. It could add, subtract and didn't require batteries.
3. They were input, data storage, processor and output.
4. To illustrate 4 basic parts of the computer.
5. It lies in the processor. The computer's processor is very powerful and versatile; it can do much more tasks than the toaster.
6. ENIAC was built in 1945. Data had to be input by flipping switches and plugging wires.
7. ROM is built into computer chips and cannot be altered or lost. RAM is temporary storage. It is constantly being erased or changed.
8. The third type of storage is hard or floppy drives.
9. Switches used in early processors are called vacuum tubes.
10. Microprocessors have been made much smaller and powerful since 1970s.

7. Open task

8. Open task

9. Open task

**UNIT 2**

1. Open task

2 a. Open task

2 b.

<b>Google Glass: features and uses</b>	<b>Mentioned</b>	<b>Para 1</b>	<b>Para 2</b>	<b>Para 3</b>	<b>Para 4</b>	<b>Para 5</b>	<b>Para 6</b>	<b>Para 7</b>
1. mapping guidance	✓			✓				
2. voice recognition	✓				✓			
3. health advice								
4. live translation	✓				✓			
5. checking in a hotel								

6. video / image transfer	✓				✓			
7. video player								
8. music recognition	✓						✓	
9. weather updates	✓					✓		
10. e-commerce								

## 2 c.

1. *Wirelessly* – у бездротовий спосіб; за допомогою бездротового зв'язку – using a system of radio signals rather than wires.
2. *Customer* – клієнт – someone who buys goods or services from a shop, company etc.
3. *Enhance* – покращувати – improve something.
4. *Lensless* – безлінзовий – not having a lens or lenses.
5. *Self-conscious* – самосвідомий – intensely aware of oneself.
6. *Tiny* – крихітний; мініатюрний – extremely small.
7. *Seamlessly* – бездоганно – smoothly and continuously, with no apparent gaps or spaces between one part and the next.
8. *Available* – доступний – able to be bought or used.
9. *Challenge* – виклик; випробування – something that tests strength, skill, or ability, especially in a way that is interesting.
10. *Genuinely* – істинно – truly; really; actually.

## 2 d. Open task

### 3 a.

- |      |      |
|------|------|
| 1. e | 4. d |
| 2. c | 5. b |
| 3. a |      |

### 3 b. Open task

#### 4.

- |                  |                 |               |
|------------------|-----------------|---------------|
| 1. entertainment | 5. application  | 9. enrichment |
| 2. location      | 6. capabilities | 10. regularly |
| 3. frequently    | 7. interactive  |               |
| 4. digital       | 8. various      |               |

#### 5.

1. Computers are almost part of a business setup because they **increase** productivity and **help** race in a competitive environment.
2. More and more organizations, from the government to the private sector, **are using** the computer.
3. Freelancers **usually work** remotely. Why leave the comfort of your home if you **have** a computer and an Internet connection?
4. Computers **are increasingly changing** the methods of diagnosis in hospitals.
5. Teachers **use** computers to create tests, give presentations and make their lessons more illustrative.
6. The well-known IT conference **starts** at 10 am tomorrow.
7. **Do you use** your computer every day?

8. The number of computer-literate people **is constantly increasing**.
9. Helen **is** very busy. Right now **she is launching** her ambitious IT project.
10. He **is seeing** a renowned data scientist on Monday.

**6. Open task**

 **7 a.** Open task

 **7 b.**

<i>avoid empathy fade Global Positioning System (GPS) perspective reliant social media sophisticated spellchecker</i>	
1. reliant	a. dependent on someone or something
2. perspective	b. a way of thinking about something
3. social media	c. social networking sites
4. empathy	d. the ability to understand other people's feelings and problems
5. fade	e. gradually disappear
6. GPS	f. a system that uses radio signals from satellites to show your exact position on the Earth on a special piece of equipment
7. avoid	g. try not to do something, or try to stay away from something:
8. spellchecker	h. a computer program that checks if the spelling in a computer document is correct
9. sophisticated	i. very advanced; intelligent or made in a complicated way and therefore able to do complicated tasks.

 **7 c.**

- |                                  |                            |
|----------------------------------|----------------------------|
| 1. Weather forecasting           | 3. Performing calculations |
| 2. Mapping guidance / navigation | 4. Translation             |
| 5. Checking spelling             |                            |

 **7 d.**

1. for a specific purpose
2. is growing astronomically / work lives and personal lives
3. satellites orbiting the Earth
4. when we are typing on a computer
5. more and more sophisticated
8. Open task
9. Open task

### UNIT 3

**1 a.**

- |                                      |                       |
|--------------------------------------|-----------------------|
| A – Laptop                           | D – Desktop PC        |
| B – PDA (Personal Digital Assistant) | E – Netbook           |
| C – Tablet PC                        | F – Wearable computer |

**1 b.** Open task

**2 a.** Open task

**2 b.** Open task

**2 c.**

1 – F

3 – D

5 – E

2 – B

4 – A

6 – C

**2 c.**

1. augmenting
2. captured
3. obvious
4. mistakenly
5. blurred

6. PDA
7. bulky
8. convergence
9. versatile
10. specific

**2 d. Open task**

**3 a.**

1. server – c
2. tablet PC – a
3. workstation – b
4. embedded system – i
5. legacy system – h

6. netbook – g
7. PDA (Personal Digital Assistant) – e
8. print server – f
9. router – d

**3 b. Open task**

**4 a.**

Adjective	Positive	Negative	Adjective	Positive	Negative
1. advanced	✓		14. obsolete		✓
2. buggy		✓	15. outdated		✓
3. clunky		✓	16. powerful	✓	
4. convenient	✓		17. seamless	✓	
5. cutting-edge	✓		18. smooth	✓	
6. efficient	✓		19. sophisticated	✓	
7. glitchy		✓	20. state-of-the-art	✓	
8. handy	✓		21. top-notch	✓	
9. impractical		✓	22. useless		✓
10. indispensable	✓		23. user-friendly	✓	
11. invaluable	✓		24. versatile	✓	
12. leading-edge	✓		25. vulnerable		✓
13. lightweight	✓		26. worthless		✓

**4 b. Open task**

**5 a.** *The expressions in bold are classifying expressions. They are used to put things into groups or classes, hence their name.*

**5 b. Open task**

**6.**

1. have changed – *recently completed action whose result is visible in the present*
2. has had – *action which started in the past and continues up to the present*
3. has replaced – *recently completed action whose result is visible in the present*

4. has been trying – *emphasis on the duration of an action which started in the past and continues up to the present*
5. have made – *recently completed actions whose result is visible in the present*
6. has been acting up – *past action of certain duration whose result is visible in the present*
7. has repaired – *complete past actions with unstated time reference*
8. have been working – *past action of certain duration whose result is visible in the present*
9. has been – *complete past action connected to the present; emphasis on number*
10. have just finished – *recently completed action*

 **7 a.** Open task

 **7 b.**

Word	Definition
1. approximate	<i>not completely accurate but close</i>
2. clutter	<i>to fill something in an untidy or badly organized way</i>
3. hostage	<i>someone who is kept as a prisoner by an enemy so that the other side will do what the enemy demands</i>
4. queue	<i>a line of people waiting to enter a building, buy something etc.</i>
5. sleek	<i>attractive</i>
6. spyware	<i>computer software that secretly records information about which websites you visit. This information is then used by advertising companies, who try to sell you products</i>
7. third-party programs	<i>computer programs that are supplied or developed for a particular purpose by a different company from the one that supplied or developed the existing programs on a particular system</i>
8. ultimate	<i>the best</i>
9. warranty	<i>a written promise from a company to repair or replace a product that develops a fault within a particular period of time, or to do a piece of work again if it is not satisfactory</i>
10. zillion	<i>an extremely large, but not an exact, number</i>

 **7 c.**

1. F – The caller’s approximate waiting time is 47 minutes.
2. F – The caller’s computer was covered by warranty but it expired the day before.
3. T
4. T
5. F – The caller didn’t get the help he was looking for.

 **7 d.**

1. isn’t running right
  2. a zillion of times
  3. diagnose the problem
  4. the service you deserve
  5. ultimate computer experience
- 8.** Open task  
**9.** Open task

## REVISION

1.

1. ALU – Arithmetic Logic Unit
2. PDA – Personal Digital Assistant
3. GPS – Global Positioning System
4. ROM – Read Only Memory
5. RAM – Random Access Memory

2.

Word	Definition
1. Breakthrough	<i>an important discovery or event that helps to improve a situation or provide an answer to a problem.</i>
2. Central Processing Unit	<i>the part of a computer that controls other parts.</i>
3. Convergence	<i>the fact that two or more things, ideas, etc. become similar or come together, or that the lines between them are being blurred.</i>
4. De-skilling	<i>losing skills.</i>
5. Embedded system	<i>a computer using a relatively slow and specialized processor and ROM chip, normally used to control a particular device such as a washing machine or an MP3 player.</i>
6. Sophisticated	<i>very advanced; intelligent or made in a complicated way and therefore able to do complicated tasks.</i>
7. Spyware	<i>computer software that secretly records information about which websites you visit. This information is then used by advertising companies, who try to sell you products.</i>
8. Third-party programs	<i>computer programs that are supplied or developed for a particular purpose by a different company from the one that supplied or developed the existing programs on a particular system.</i>
9. Versatile	<i>having many different uses.</i>
10. Wirelessly	<i>without using wires.</i>

3.

**Positive:** *advanced, convenient, indispensable, seamless, sophisticated, user-friendly, versatile*

**Negative:** *buggy, glitch, obsolete*

4.

Word	Definition
1. augment	примножувати, збільшувати
2. enhance	покращувати
3. genuinely	істинно
4. legacy system	застаріла система
5. tiny	маленький

6. виклик / проблема	challenge
7. вбудований	embedded / built-in / integrated
8. громіздкий	bulky
9. доступний	available
10. клієнт	customer

**5.**

1. c (Verb + Noun)

2. d (Adjective + Noun)

3. e (Verb + Noun)

4. a (Adjective + Noun)

5. b (Adjective + Noun)

**6.**

1. *Present Simple* - f

2. *Present Perfect* - h

3. *Present Continuous* - a

4. *Present Continuous* - b

5. *Present Perfect* - g

6. *Present Continuous* - c

7. *Present Perfect Continuous* - d

8. *Present Simple* - e

**7.**

1. b

2. d

3. a

4. c

**8.** Open task

## TAPESCRIPPTS

### UNIT 1

**Annette Chavez:** When Hollywood spent the 1950s fantasizing about computers of the future, scientists and engineers were inventing them. Hello and welcome to the journey inside the computer. Now when this film was released, modern computers were in their infancy but humans had been building calculating machines for thousands of years. It may surprise you to know that Stonehenge was probably a giant astronomical calculator. Here's one of the first portable calculators it was invented about 5000 years ago you could add and subtract and didn't require batteries. So ingenious the abacus is still in use today. Later on Charles Babbage laid the groundwork for modern computers. In the early 1800s he designed mechanical calculating machines with four parts input data storage a processor and output. Babbage's machines never worked but today's computers have a similar design.

**Brahman Turner:** We are here at the computer museum History Center where they have assembled some of the most important computers in the last 50 years. I guess you could say this place is kind of like a computer Hall of Fame.

**Annette Chavez:** Great, Brahman, but what's with a toaster

**Brahman Turner:** Oh well, good question. See this toaster illustrates the four basic parts of the computer. Now just like a computer at your home the raw data goes in the information gets stored then this raw data gets processed or in this case toasted. BAM! The end result! MMM... it is pretty tasty. But there still is one big difference between the computer and the toaster. That's the processor. See the computer's microprocessor is so powerful and so versatile it can do so many more tasks than just this toaster. But the key thing to remember is that both of these machines still have these four basic parts. Let's start with input. When the first general-purpose computer was built in 1945 data had to be entered by flipping switches and plugging wires. That computer by the way was called the Electronic Numerical Integrator and Calculator or ENIAC. Can you even imagine having a computer without a keyboard to input data? For years, scientists and engineers they had to flip levers and twist dials and they even had to punch holes in cards just to input data. Even with this kitchen computer people are expected to flip switches to store the recipes. Now of course today input has taken on many different forms from the click of a mouse to a digital microphone to everything else in between.

**Rebecca White:** Just like Babbage's calculating machine, the second thing a computer has to do is store data either temporarily (while it's being processed) or long-term so you can access it when you want it again. One kind of storage is Read Only Memory or ROM. ROM is programmed into a computer's chips so it can't be altered or lost. You use ROM each time you boot up your computer. Another kind of storage is RAM (Random Access Memory). RAM is temporary storage it's constantly being erased and changed as you type in a story for example both the words and the software instructions for your word processing program are stored in RAM. If you shut off the computer without saving your file, your story is gone! Kaput! Fortunately, you won't lose the software because there's another copy of it on a third type of storage hard drives and floppy drives. This monster was one of the earliest hard drives and today this hard drive can hold a hundred times more information.

**Brahman Turner:** The processor is what makes the computer work. All data and instructions have to pass through it. The processor takes in raw data, it performs tasks called for by the software and it communicates with the rest of the computer through the motherboard. The processor does all of this through rows of switches. In fact, the history of the processor is really just a story about switches. Early computers processed information with thousands of switches like these. Vacuum tubes. They were big bulky and hot and the ENIAC had over 18,000 of them. In the late 1950s, the processors used to switch like this. It was a lot smaller and it put out a lot less heat. By the early 1960s, the switches had been shrunk down to this size. As for the computer... Well... That's another story... But it wasn't until the 1970s, that all the processing functions of a computer could be put onto a single chip. Here's the first microprocessor... the 4004 invented by Intel in 1971 for this calculator. People called it a computer on a chip. Microprocessors could be programmed to perform many different tasks and as computer hobbyists soon realized these processors could be used as the brains of a personal computer. Since the 1970s, microprocessors have been made much smaller and much more powerful. It's really the processors that have driven the computer revolution.

**Rebecca White:** That brings us to the final part of a computer: output. Output is anything that can be recognized by us or a machine and it can take a wide range of forms, including sound video or, in the case of this old classic, print.

**Annette Chavez:** People dubbed early computers electronic brains as if they were like human brains. But everything the computer does must be processed mathematically. Today computers can make decisions based on huge amounts of input. But can they really think like humans? Rebecca consulted some experts.

**Rebecca White:** Computers have received a lot of attention for their skill in chess and players regularly practice against computerized programs. So we thought they might have an insight on how a computer's brain is different than a human's.

**Expert 1:** It's different because, yes, the computer is much more constant, it makes better moves than you would think it would.

**Expert 2:** The computers think more moves forward by human and do look at all the possibilities in a couple of seconds and we look at all the possible in a couple of hours.

**Rebecca White:** Do you think a computer has a brain?

**Expert 3:** Um... No, I don't think it has a brain. Just kind of ... Has memory... It doesn't really think.

**Expert 4:** Yeah, creativity does account. It first of all helps you more with your planning. You can see further ahead and more complicated moves.

**Expert 5:** You can be tired when you play. You have fears. You can be afraid of the opponent you're going to play and that really damages your skill. You can be a lot weaker because of that. But the computer has no idea who it's playing. It's not afraid of anything. It's not tired.

## UNIT 2

**Rob:** Hello, I'm Rob. Welcome to 6 Minute English. With me in the studio today is Neil. Hello, Neil.

**Neil:** Hi. Hi Rob!

**Rob:** Are you alright, Neil? Are you playing on your smartphone again, are you?

**Neil:** Err... what was that? Yeah, sorry, Rob... just doing something on my smartphone, you know, the kind of phone which allows you to go online.

**Rob:** Oh I can see that. But are you waiting for a call?

**Neil:** No. No, I just carry it with me at all times. Where I go, the phone goes. No phone, no Neil!

**Rob:** OK, but why do you need your phone so much?

**Neil:** Why?! What if I need to need to go somewhere? How will I find my way? What about the weather? Will it rain today? I need to know these things.

**Rob:** Why don't you just look up in the sky and see if it is cloudy?

**Neil:** Look up if it is going to rain? I have an app – which is short for an application, which is a computer program for a specific purpose. My app tells me the weather ... and this one does all the math) I need... and here's one for translations, and this one here... can tell me what I'm going to...

**Rob:** OK, OK, OK, I get the point. Today were talking about computers — and well bring you some words connected with the digital age.

**Neil:** Connected — to connect — we use this verb a lot. It means to link, or join, one thing to another thing. In this case, connected means 'linked to the internet'.

**Rob:** OK, I can see you are very excited about computers. So that's what my question is all about. The first commercially produced "desktop computer" was designed and produced by the Italian company Olivetti and presented at an event in New York. When did it happen? Was it in:

a) 1955 b) 1965 or c) 1975

**Neil:** Well, I think it's (a) 1955.

**Rob:** Very interesting. You'll get the right answer at the end of the programme. Now, let's talk about computers. You can't live without them but American technology writer Nicholas Carr, the author of a book called 'The Glass Cage - where automation is taking us', thinks they might cause problems.

**Neil:** Problems?! They cause us problems when they crash — that's what we say when our computer suddenly stops working.

**Rob:** Well, not just that. Let's listen to Nicholas Carr. He says if we rely too much on computers we lose something. But what is it?

**American technology writer Nicholas Carr:** The ability of computers to do things we used to do is growing astronomically and we're rushing to hand over to computers tasks, activities — both in our work lives and in our personal lives — and what you begin to see is what is often called a de-skilling effect. The person becoming reliant on computers; because they are not exercising their own talents, those talents begin to fade. And we begin to lose, as result, the unique things that human beings can do that computers can't: feel empathy, take a broad perspective, interpret all the stuff that can't be turned into data.

**Neil:** According to Nicholas Carr, using computers means that we are losing skills – he talks about 'de-skilling'. A skill is the ability to do something well because we've practised it.

**Rob:** And he also talks about the loss of talent - talent is a natural ability to do something - you didn't have to learn it, you're just naturally good at it. It's something we're all born with.

Carr says that relying on computers means our talent is fading because we don't use it any more.

**Neil:** And he goes even further and says we're losing some of the things that make us human, like empathy, the ability to imagine and understand what other people might be feeling.

**Rob:** So, do you agree with this writer, Neil?

**Neil:** I think he's got a point actually.

**Rob:** It's like the friendships we make on social media. It is nice to get to know new people in different countries, but we have to remember that it's important to talk to people face-to-face too.

**Neil:** So... maybe we shouldn't use GPS to find our way around all the time. GPS, the global positioning system which gives us directions with the help of satellites orbiting the Earth... instead, have a conversation with someone - ask for directions.

**Rob:** Yes, and perhaps we can give the spellchecker a miss occasionally. A spellchecker is a very useful piece of software which helps us avoid making spelling mistakes when we're typing on a computer but... it is good to actually learn how to spell the words properly and not leave everything to the machine.

**Neil:** Good idea, Rob. I'll try not to rely so much on digital technology. Computers are here to stay and they'll become more and more sophisticated, but we have to remember they are just tools.

**Rob:** Yes, computers are here to stay. And by the way, when was the first commercially produced "desktop computer" launched? As I told you, it was designed and created by Olivetti and launched in New York. But when was it launched? Was it: 1955, 1965 or 1975?

**Neil:** And I said 1955.

**Rob:** Perhaps you should ask your smartphone because the correct answer is actually (b) 1965.

**Neil:** I don't believe it!

**Rob:** The computer was called Programma 101 and it was presented at the New York World's Fair. They sold 44,000 units all over the world. The initial price in the US was US\$ 3,200. Well, we are almost out of time so let's remind ourselves of some of the words we said today, Neil.

**Neil:** Smartphone app (application); to connect; crash; skill; talent; empathy; GPS (Global Positioning System); spellchecker.

**Rob:** Thank you. Well, that's it for today. Do log on to [www.bbelearningenglish.com](http://www.bbelearningenglish.com) – maybe on your smartphone, Neil – to find more 6 Minute English programmes. Until next time. Goodbye!

### UNIT 3

**Phone Recording:** Hello and thank you for calling computer technical support.

**Caller:** Uh, yes, I have a problem . . .

**Phone Recording:** Your call is important to us, and we will answer your call in the order that it was received. You are number 47 in the queue. Your approximate waiting time is 47 minutes.

**Technical support:** Jason, speaking. How can I help you?

**Caller:** Oh, I'm saved. I thought I was going to have to wait all day.

**Technical support:** Okay, what's the problem?

**Caller:** Yeah, well, I bought one of your laptop computers about three weeks ago, but it just isn't running right.

**Technical support:** Okay, well, sorry to say, but your computer is no longer under warranty. [*What?!*] It ran out yesterday.

**Caller:** What? A three-week warranty? [*Yeah, great isn't it.*]. Ah!!!

**Technical support:** Okay, okay, what seems to be the problem?

**Caller:** Well, first of all, the thing always freezes [*Yeah.*] and has crashed a zillion times . . . [*Always.*]

**Technical support:** Uh, sir . . .

**Caller:** . . . and I think the computer's infected with spyware and the big banana Trojan virus . . . [*That's normal.*] That's my biggest . . . that's normal? . . . That's my biggest concern.

**Technical support:** Oh, oh, uh, sir . . .

**Caller:** . . . and plus there was a ton of preinstalled, third-party programs that just clutter the computer, and I'm at wit's end trying to get this thing to work.

**Technical support:** Sir. I have to put you on hold.

**Caller:** What?

**Technical support:** It's going to take us a minute or so to diagnose the problem. [*Huh?!*] I'm going to transfer you to our ONE technician.

**Caller:** One . . . one!? But . . .

**Phone Recording:** Thank you for waiting. Your call is important to us. You are number 84 in the queue. You approximate waiting time is 2 hours, 17 minutes or whenever we get around to answering your call.

[ *End of call and continuation of computer advertisement . . .* ]

**Caller and Narrator:** Does this experience sound familiar? Then, do what I did. If your computer is holding you hostage and you can't get the service you deserve, then call Turbo Command, creators of the safest and most reliable computers and operating system on the planet.

Listen, while the competition is spending all of their time trying to imitate our computer's performance and features, our company is innovating the computer industry. So, why buy a computer that hiccups every time you turn it on when you can be the owner of the sleekest and friendliest machine ever.

Call us today or visit our Website for more information, and let us introduce you to the ultimate computer experience.

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