

UNIT 1
COMPUTER USERS

Task 1. Think over the following questions and give your answers.

1. What is the computer? Computers are now widespread, aren't they?
2. How old were you when you learnt about the computer?
3. Who uses computers today? Give examples of the impact computers have on our lives.
4. What are the reasons for buying home computers?
5. How often do you work with the computer?
6. Does good knowledge of English help to operate the computer better?

Task 2. Read the text and fill in the gaps with the following words:

accurate	graphics	records	retrieve
publishing	networking	memory	back-up
on-line	display	peripherals	printer
transactions	drive	supplies	components

USING COMPUTERS

Computers are being used more and more in business because they are fast, efficient and 1_____.

Here are some ways in which computers are used:

- Insurance companies use them to store and 2_____ details of clients' policies.
- Production departments in companies use them to ensure they have adequate 3_____ of raw materials and 4_____.
- Banks use them for processing details of accounts and 5_____.
- Personnel departments use them to keep 6_____ of a company's employees.

For the most part, the computers, software, and 7_____ that are needed depend on individual needs. For instance, if you're an architect you may want a system with good 8_____ capability. If a lot of records are to be kept, then you'll want ample 9_____, perhaps even a CD-ROM 10_____ for permanent storage of massive amounts of data. Regular disks can then be used for 11_____ copies. For desktop 12_____, you may want a monitor with a full-page 13_____ and a high-quality laser 14_____. If quality printing is not so important, then a cheaper ink-jet or even cheaper dot-matrix printer may be more suitable. If you're in a business where you need to do a lot of 15_____, then maybe you should consider a modem, so you can communicate with other computers 16_____.

Vocabulary Bank Unit 1

Task 3. Read, write the translation and learn the basic vocabulary terms:

- | | |
|------------------------------|------------------------|
| 1. advantage | 29. landscape |
| 2. animation | 30. opportunity |
| 3. appliance | 31. password |
| 4. appropriate | 32. relevance |
| 5. attachment | 33. remote |
| 6. benefit | 34. research |
| 7. boardroom | 35. search engine |
| 8. call monitoring | 36. security system |
| 9. clipart | 37. significantly |
| 10. computer output | 38. sophisticated |
| 11. connectivity | 39. spreadsheet |
| 12. customer | 40. storage device |
| 13. device | 41. supervision |
| 14. disabled | 42. to determine |
| 15. efficiency | 43. to encourage |
| 16. endure | 44. to perform |
| 17. engine | 45. to download |
| 18. environment | 46. to enhance |
| 19. equipment | 47. to log on |
| 20. expansion card | 48. to plug into |
| 21. forwarding | 49. to proliferate |
| 22. FTP | 50. to require |
| 23. graphical interface | 51. to stay in touch |
| 24. handheld computer | 52. to telecommute |
| 25. hard disk | 53. to upload |
| 26. information superhighway | 54. vacuum-sealed case |
| 27. interior designer | 55. videoconferencing |
| 28. inventory | 56. word processor |

TEXT 1A. COMPUTER USERS

A computer is a device that processes data according to a set of instructions known as a program. The equipment is known as the hardware and the programs and data are the software. A special set of programs, called an operating system, provides an interface for the user and allows applications programs to communicate with the hardware. Common applications programs include word processors for creating and editing texts, spreadsheets for calculating mathematical formulae and databases for storing data in a way that allows the data to be sorted and searched. Anti-virus programs are used to detect and remove viruses. Some operating systems have graphical (user) interfaces that allow the computer user to select items from menus and to start programs using an input device called a mouse. This is done by pressing a button on the mouse i.e. clicking the mouse. The main device for inputting the data is a typewriter-style keyboard and the output is commonly displayed on a monitor screen that looks like a small television screen.

There is a range of sizes and types of computer. Those designed for use by one person at a time are known as personal computers (PCs). Personal computers include desktop computers and handheld computers that can be carried around by the user. Electronics can be added to desktop computers by plugging in expansion cards (electronic circuit boards that can be plugged into special sockets called expansion slots).

It is also possible to build all the main parts of a computer into one electronic integrated circuit packaged as a single electronic chip i.e. the 'computer on a chip'. This enables computers to be built into other devices including household devices such as washing machines and fridges and to be incorporated into plastic cards i.e. smart cards, which are able to store information such as health records, drivers' licences, bank balances, etc. Devices that include a computer circuit are commonly referred to as smart devices. A multimedia computer can process different forms of data including text, graphics, audio (sound), animation and video. This enables computer systems to be used for a combination of education and entertainment, sometimes referred to as edutainment.

Unlike most machines, computers do not have a fixed purpose. They are multi-purpose tools. They can be used in a very wide variety of situations and are found in a wide range of systems including security systems, cars and phones. Advanced systems, known as expert systems, enable computers to 'think' like experts. Medical expert systems, for example, can help doctors diagnose an illness and decide on the best treatment. As computer systems are developed, they are becoming more common and are gradually being used for more and more purposes. How they are developed, and for what purposes they are actually used in the future, can be influenced by computer users. A variety of devices known as peripherals can be added externally to a computer. One of the most common peripherals is a printer used for printing the computer output on paper. A digital camera allows photographs to be input to a computer for editing.

Not all computer systems are compatible i.e. they cannot use the same programs and data. Connecting computers together to form a network can provide the 'connectivity' required to enable computers and software to communicate and to share resources. Networks connected together form an internet. The connection of networks throughout the world is known as the Internet or, more simply, the Net. Various communication services are available on the Internet, including email (electronic mail) for sending and receiving text messages and IRC (Internet Relay Chat) which allows users to communicate using text messages in real-time i.e. without any delay, while the users are logged on (connected to a network system account, normally using a password) to the system. An Internet service called FTP (File Transfer Protocol) is used for transferring data or program files between the powerful server computers

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that provide the network services and the client computers that use these services e.g. downloading music files. Note that copying data from a larger server system to a client is referred to as downloading and copying from the client to the server is known as uploading.

One of the newest and most popular services available on the Internet is the World Wide Web (WWW) which is often simply referred to as the Web. The Web contains interlinked documents called webpages. A set of related webpages stored together on a server computer is called a website. Websites, such as Dogpile and Askjeeves, give the user access to special programs called search engines that are designed to allow the user to find relevant webpages on the Web. An Internet system designed to provide free, interactive access to vast resources for people all over the world is sometimes referred to as an information superhighway.

Services such as these allow people to telecommute (use their computers to stay in touch with the office while they are working at home). Computer users mentioned in this unit include producing greetings cards; using the Microsoft Word word-processing program including features such as clipart (ready-drawn graphic images that can be inserted into documents); communicating on the Internet using email and chat programs including the use of email attachments (other types of files e.g. video files attached to simple email text messages); distance learning and videoconferencing; electronic classrooms or boardrooms; browsing the Web (moving from webpage to webpage using a Web browser program); selling, using a website; painting; scanning pictures; downloading music and creating CD-ROMs. CD-ROMs are storage devices that use laser light for reading and writing data. The most common storage device is a hard disk (a set of aluminium disks coated in a magnetic material and enclosed in a vacuum-sealed case) used for storing the operating system and applications programs as well as the user's data.

Task 4. Answer the following questions.

1. What is a computer? 2. What does an operating system provide? 3. What types of computers do you know? 4. What are the advantages of multimedia? 5. Name some types of devices that can be added externally to a computer? 6. Why are not all computer systems compatible? 7. What is the connection of networks throughout the world called? 8. What do we call downloading (uploading)? 9. What is the structure of the Web? 10. What services does telecommunication provide? 11. How do CD-ROMs function? 12. What is a hard disk used for?

Task 5. Give the Ukrainian equivalents for:

a spreadsheet for calculating mathematical formulae; interlinked documents; to select items from menus; by pressing a button on the mouse; displayed on a monitor screen; to be able to store information; by plugging in an expansion card; to share resources; a system designed to provide access; a vacuum-sealed case; sockets called expansion slots; to add externally to a computer; networks throughout the world.

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Task 6. Find the English equivalents for the following Ukrainian word combinations.

1. видалити вірус; 2. натиснути кнопку миші; 3. інтелектуальні пристрої; 4. мініатюрний портативний комп'ютер; 5. під'єднувати до системи; 6. прикладна програма; 7. вихідні дані; 8. програма, що дозволяє шукати інформацію; 9. програмне забезпечення; 10. розвантаження.

Task 7. Memorize the following definitions.

1. A spreadsheet is a type of application program with an array of cells that is used for calculating formulae. 2. An expansion slot is a long thin connector that is used for adding additional electronics in the form of expansions cards. 3. A mouse is a common cursor control input device with two or three button switches on top and a ball underneath that is rolled on a flat surface. 4. A server is a main computer that provides a service on a network. 5. Output is the processed data or signals that come out of a computer. 6. A password is a secret code used to control access to a network system.

Task 8. Match the terms in Table A with the statements in Table B.

Table A	Table B
1. Edutainment	a) Software that enables computers to 'think' like experts
2. Multimedia	b) Use computers to stay in touch with the office while working at home
3. Expert system	c) Internet system designed to provide free, interactive access to vast resources for people all over the world
4. Telecommute	d) Multimedia materials with a combination of educational and entertainment content
5. Information superhighway	e) A combination of text with sound, video, animation, and graphics.

Task 9. Mark the following as True or False.

1. A personal computer can process different forms of data including text, graphics, audio, animation and video. 2. Videoconferencing is a form of communication over a network that uses video cameras. 3. Anti-virus programs are used to connect a number of computers and peripheral devices together. 4. A hard disk is a piece of equipment used for putting data into a computer. 5. A chip which is the common name for a microchip is an electronic integrated circuit in a small package. 6. Desktop computers are referred to the powerful type of computers, operated by a team of professionals.

Task 10. Fill in the blanks with the words from the box.

ability to combine; handles; in hardware and software; operating systems; increased precision; parallel processing; to count; data and information; to store this program

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1. The word 'computer' comes from a Latin word which means 2. The feature which makes the computer more than just a calculator is its ... thousands of such small operations into a program and 3. All the data which a computer ... are in the form of numbers. 4. The term "computer generations" helps to single out the major technological developments 5. The production of ... – a type of systems software – and applications software packages increased rapidly. 6. We must be selective about the type of ... we process. 7. Data processing is getting faster and faster, mathematical calculations continue to be performed with 8. Traditional computers act on only one problem at a time; ... means that many processors will work on the problem at the same time.

Task 11. Read the text and try to retell it:

THE DIGITAL AGE

We are now living in what some people call the digital age, meaning that computers have become an essential part of our lives. Young people who have grown up with PCs and mobile phones are often called the digital generation. Computers help student to perform mathematical operations and improve their math skills. They are used to access the Internet, to do basic research and to communicate with other students around the world. Teachers use projectors and interactive whiteboards to give presentations and teach science, history or language courses. PC's are also used for administrative purposes – schools use word processors to write letters, and databases to keep records of students and teachers. A school website allows teachers to publish exercises for students to complete online.

Students can also enroll for courses via the website and parents can download official reports. Mobiles let you make voice calls, send texts, email people and download logos, ringtones or games. With a built-in camera you can send pictures and make video calls in face-to-face mode.

New smart phones combine a telephone with web access, video, a games console, an MP3 player, a personal digital assistant (PDA) and a GPS navigation system, all in one. In banks, computers store information about the money held by each customer and enable staff to access large databases and to carry out financial transactions at high speed. They also control the cashpoints, or ATMs (automatic teller machines), which dispense money to customers by the use of a PIN-protected card. People use a Chip and PIN card to pay for goods and services, instead of using a signature to verify payments, customers are asked to enter a four-digit personal identification number (PIN), the same numbers used at cashpoints; this system makes transactions more secure. With online banking, clients can easily pay bills and transfer money from the comfort of their homes.

Airline pilots use computers to help them control the plane. For example, monitors display data about fuel consumption and weather conditions. In airport control towers, computers are used to manage radar systems and regulate air traffic. On the ground, airlines are connected to travel agencies by computer. Travel agents use computers to find out about the availability of flights, prices, times, stopovers and many other details.

TEXT 1B. COMPUTERS MAKE THE WORLD SMALLER AND SMARTER

The ability of tiny computing devices to control complex operations has transformed the way many tasks are performed, ranging from scientific research to producing consumer products. Tiny “computers on a chip” are used in medical equipment, home appliances, cars and toys. Workers use handheld computing devices to collect data at a customer site, to generate forms, to control inventory, and to serve as desktop organisers.

Not only computing equipment getting smaller, it is getting more sophisticated. Computers are part of many machines and devices that once required continual human supervision and control. Today, computers in security systems result in safer environments, computers in cars improve energy efficiency, and computers in phones provide features such as call forwarding, call monitoring, and call answering.

These smart machines are designed to take over some of the basic tasks previously performed by people; by so doing, they make life a little easier and a little more pleasant. Smart cards store vital information such as health records, drivers’ licenses, bank balances, and so on. Smart phones, cars, and appliances with built in computers can be programmed to better meet individual needs. A smart house has a built-in monitoring system that can turn lights on and off, open and close windows, operate the oven, and more.

With small computing devices available for performing smart tasks like cooking dinner, programming the VCR, and controlling the flow of information in an organization, people are able to spend more time doing what they often do best - being creative. Computers can help people work more creatively.

Multimedia systems are known for their educational and entertainment value, which we call “edutainment”. Multimedia combines text with sound, video, animation, and graphics, which greatly enhances the interaction between user and machine and can make information more interesting and appealing to people.

Expert systems software enables computers to “think” like experts. Medical diagnosis expert systems, for example, can help doctors pinpoint a patient's illness, suggest further tests, and prescribe appropriate drugs.

Connectivity enables computers and software that might otherwise be incompatible to communicate and to share resources. Now that computers are proliferating in many areas and networks are available for people to access data and communicate with others, so personal computers are becoming interpersonal PCs. They have the potential to significantly improve the way we relate to each other. Many people today telecommute - that is, use their computers to stay in touch with the office while they are working at home. With the proper tools, hospital staff can get a diagnosis from a medical expert hundreds or thousands of miles away. Similarly, the disabled can communicate more effectively with others using computers.

Distance learning and videoconferencing are concepts made possible with the use of an electronic classroom or boardroom accessible to people in remote locations. Vast databases of information are currently available to users of the Internet, all of whom can send mail messages to each other. The information superhighway is designed to significantly expand this interactive connectivity so that people all over the world will have free access to all these resources.

People power is critical to ensuring that hardware, software, and connectivity are effectively integrated in a socially responsible way. People - computer users and computer professionals - are the ones who will decide which hardware, software, and networks endure and how great an impact they will

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have on our lives. Ultimately people power so must be exercised to ensure that computers are used not only efficiently but in a socially responsible way.

Task 12. Find the answers to these questions:

1. Name some types of devices that use “computers on a chip”.
2. What uses of handheld computers are mentioned in the text?
3. What are the benefits of using computers with the following items?
 - a) Security systems
 - b) Cars
 - c) Phones
4. What smart devices are mentioned in the text?
5. What are smart cards used for?
6. What are the advantages of multimedia?
7. What can medical expert systems do?
8. How can computers help the disabled?
9. What types of computing systems are made available to people in remote locations using electronic classrooms or boardrooms?
10. What aspects of computing can people power determine?

Task 13. Mark the following statements as True or False:

- Desktop organisers are programs that require desktop computers.
- Computers are sometimes used to monitor systems that previously needed human supervision.
- Networking is a way of allowing otherwise incompatible systems to communicate and share resources.
- The use of computers prevents people from being creative.
- Computer users do not have much influence over the way that computing develops.

GRAMMAR REVIEW**PRESENT FORMS**

	Present Simple	Present Continuous	Present Perfect	Present Perfect Continuous
When	usually, always, every day, often, sometimes	now, at the moment	already, just, never, today, this week (month, year)	for 7 years, for 3 months, for 2 hours
Affirmative sentence	I/you/we/they play He/she/it/ plays	I am playing He/she/it is playing You/we/they are playing	I/you/we/they have played/written He/she/it has played/written	I/you/we/they have been playing/writing He/she/it has been playing/writing
Negative sentence	I/you/we/they don't play He/she/it doesn't play	I am not playing He/she/it is not playing You/we/they are not playing	I/you/we/they have not played/written He/she/it has not played / written	I/you/we/they have not been playing/writing He/she/it has not been playing/writing
General question	Do I/you/we/they play? Does he/she/it play?	Am I playing? Is he/she/it playing? Are you/we/they playing?	Have I/you/we/they played/written? Has he/she/it played/written?	Have I/ you/we/they been playing/writing? Has he/she/it been playing/writing?
Wh-question	What do I/you/we/they play? What does he/she/ it play?	What am I playing? What is he/she/it playing? What are you/we/they playing?	What have I/you/we/they played/written? What has he/she/it played/written?	How long have I/ you/we/they been playing/writing? How long has he/she/it been playing/writing?

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Adverbs of frequency (Signal Words)	Use	Example
Present Simple		
<p>Usually, the position of verbs of frequency is:</p> <ul style="list-style-type: none"> • after the verb to be <i>She <u>is</u> never late</i> • before the main verb <i>We often <u>watch</u> a film on Fridays.</i> • between the auxiliary and the main verb in a question and negative <i><u>Do</u> they always <u>behave</u> like this?</i> <i>I <u>don't</u> usually <u>go</u> to bed late.</i> <p><i>always , often, normally, usually sometimes, seldom , rarely, never</i></p> <p>the position of these time markers is usually at the start or the end of the sentence <i>on Wednesday, on Fridays, every day, ... twice a week, a month,</i></p>	1. for actions that happen again and again/ often = repeated or regular actions in the present time period or for a habit that we have (everyday, sometimes, ever, never)	<p>I sometimes go to school by bike.</p> <p>Do they get up early?</p> <p>He often travels.</p> <p>Does she ever help you?</p> <p>He walks to work twice a week.</p> <p>We usually eat at my grandmother's on Sundays.</p>
	2. for permanent state	<p>They live in a village in Scotland.</p> <p>She doesn't work.</p> <p>You don't speak Greek.</p>
	3. for general truths or natural and scientific laws	<p>The earth goes round the sun in 24 hours.</p> <p>Lions eat meat.</p> <p>Water boils at 100 °C.</p> <p>Birds lay eggs.</p>
	4. to talk about people or things in general	<p>People make choices because they can't have everything they want.</p> <p>Nurses work in clinics and hospitals.</p> <p>Football is a very popular sport in Bulgaria.</p>
	5. to talk about something in future that is officially organized (theatre, cinema) programmes and timetables (for airplanes, trains, buses) (mainly with verbs such as <i>go, leave, arrive, start, come, return</i> etc.)	<p>The next train leaves in an hour.</p> <p>The play begins at nine o'clock.</p> <p>The plane leaves Athens at 15.25 and arrives in London at 17.25.</p> <p>The course starts next Thursday.</p>
	6. in conditional clauses after " if ", " when ", " after ", " while ", " till " / " until ", " before ", " as soon as "	<p>What shall we do if it rains tomorrow?</p> <p>When the rain stops, we'll go out.</p> <p>If you heat water to 100°C (212°F), it boils. (<i>zero conditional</i>)</p> <p>If you finish your homework I'll bring you to the zoo. (<i>first conditional</i>)</p>
	7. for narratives, descriptions of games, reviews of plays, films, books	<p>The little boy opens the door and he sees a big box on his bed. He runs to the kitchen and tells his mother.</p> <p>The local team scores another goal!</p>
	8. to give instructions/directions	<p>Pour all ingredients into a mixing bowl and mix until smooth. Walk down the street to the corner and then turn right.</p>

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<i>once a day</i>	9. • when we say “Where do you come from?” • when we make a suggestion Why don't you ...?	He comes from Holland. -I'm tired. -Why don't you go to bed early?
Present Continuous		
<i>at the moment, at this moment, at present, today, now, right now, Listen! Look! these days, this week</i>	1. for an action that is happening just now , at the time when we are talking	I'm doing homework <u>now</u> . I am learning English at the moment. You aren't listening ! Why is he sitting here? Listen! Someone is ringing the bell.
	2. when we talk about something which is happening at present , but not necessarily at the moment of speaking	I'm reading an interesting book. Tom is looking for a new job. We are studying English and Spanish.
	3. for a temporary action or state (temporary situations) period of time at present – (today, this week, this semester, this year)	She is teaching English this semester. She can't go out. She is writing her essay today. We are staying at the Bristol Hotel tonight. You can't borrow this book today. They are spending this week in Paris. I'm living with my parents at the moment but soon I'll buy my own house.
	4. for definite arrangements in the near future , to talk about the speaker's plans . (soon, on Monday)	When are you coming to see us? I am leaving soon. We are meeting on Monday.
	5. • to describe changing situations , especially with the verbs <i>to get, to grow, to become, to increase, to change</i> • to express current trends	It's getting colder. Dean is getting better after his illness. Fuel prices are rising constantly because of strong demand. On-line shopping is growing rapidly nowadays.
	6. for frequently repeated actions with “ always ” expressing the speaker's annoyance or criticism .	He is always boasting ! She is always criticizing my appearance. You are always wearing dirty shoes!
<p>State verbs usually indicate a state. They do not have a continuous form even when they refer to the present time. Such verbs are:</p> <p>verbs of sense – see, look, notice, hear, sound, smell, taste, feel (<i>feel, hear, look, see, smell, sound, taste are followed by adjectives!!! Not adverbs</i>)</p> <p>verbs that express likes and dislikes – like, dislike, love, hate, prefer, not mind</p> <p>verbs of perception – think, believe, know, understand, realize, seem, remember, remind, forget</p> <p>other verbs such as – have, want, need, cost, mean, belong, own</p> <p>Some of these verbs they indicate both state and action, but there is difference in meaning.</p>		

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<p>I see her! There she is. (see=see) The silk feels soft. (feel=has texture) Dinner tastes great. (taste=has the taste of) Those socks smell awful. (smell=have an odour ['əudə] сморід (зазвичай неприємний) Most people love/enjoy eating out.(like it in general)</p> <p>I think you are pretty. (think=consider/opinion) He is a difficult person to get on with.(his character is difficult)</p>	<p>I'm seeing him today. (see=meet) She is feeling the silk (feel=touch) He is tasting the soup (taste=try) The dog is smelling its food.(smell=smell) She is loving/enjoying every minute of her holiday. (she likes specifically <i>a саме</i>, - насолоджується зараз) Are you thinking about the test? (think=think) She is being particularly generous this week. (she's behaving generously, her behaviour is unusual)</p>
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Present Perfect		
<p><i>already, ever, just, never, not yet, so far, till now, up to now this is the first time</i></p> <p><i>it's the first time, recently, lately, always, How long?</i></p>	<p>1. for a single or repeated action in the past when we don't know or aren't interested in when it happened. What concerns us is the action itself.</p>	<p>We have bought a new car. He has lived with Amazon Indians. We have moved into a new house. Diana has changed her job.</p>
	<p>2. with adverbs such as <i>ever, already, never, recently, lately, yet, always</i>, etc.</p>	<p>They have never been abroad. Jane has already received her birthday presents. The child has never asked me such questions before. She has never expected such a change for the worse. My colleague has been very busy recently.</p>
	<p>3. for past events and activities with results and consequences in the present and they influence it in some way (the effects are important now.)</p>	<p>I have lost my key. (And so she has no key now.) She has been to London. (And so she knows London.) She has lost some weight and she looks very nice. Dad has broken his glasses, so he can't read the newspaper.</p>
	<p>4. for action that has just stopped, finished</p>	<p>She has just finished cooking dinner. The play has just finished. Emma has just washed her hair.</p>
	<p>5. for activities or states that started in the past and continue in the present (often with <i>since</i> and <i>for</i>).</p>	<p>She has known me for more than two years. How long have they been here? My sister-in-law has been a teacher since 2000. David has worked in Spain since 1996. He hasn't smoked for three years. We have lived here for fifteen years.</p>

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	6. to talk about experiences : what somebody has or hasn't done during his lifetime (we often use <i>ever, never, before</i>)	I have never been to Australia. I've visited many countries. Have you ever ridden a camel? We have never flown in a hot air balloon.
	7. emphasis the number of repetitions of the action or the number of things that have derived from this (time of completion is unspecified) (with <i>so far, many times, since, for the last year, for hours, for a week, several times, etc.</i>)	I have written five letters this morning! She has called you ten times today! She has had four cups of coffee since she woke up. I have written many letters since I moved to Canada. We have had five tests so far this semester. He has been in New York many times. I have played tennis every Sunday morning for the last two years.
	8. we often use the Present Perfect after the superlatives	This is one of the most beautiful country she has ever visited . This is the most delicious food I have ever eaten .
	9. with the expressions " This is the first time... ", " It's the first time... ", etc.	This is the first time I've ever visited your website and I think it is awesome. It's the first time I've ever eaten Chinese food.
	10. sometimes to emphasize the completion of the act in the time clause (with time words such as <i>when, until, after, before, as soon as</i>)	You can go out as soon as you have finished your homework. I will go to bed after I have written my report.
Present Perfect Continuous		
<i>with time words since, for, all day, all afternoon, every day this year, How long?</i>	1. to say how long something has been happening . The action began in the past, continues in the present (or has just stopped), and may continue into the future.	Ann has been playing tennis for two hours. (Ann is playing tennis now. She began to play tennis two hours ago and she is still playing.) I have been waiting for my girlfriend since 6 o'clock. He has been smoking for ten years. Nancy has been skiing since she was 8. We have been living here for seven years. He has been watching TV all evening.
	2. to talk about an action which began in the past and has recently finished or just finished (without time words)	Bob and Gloria have just come back from the park. They have been jogging and they are very tired now. Your shirt is so dirty. What have you been doing ? Susan has been talking to Mike.

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	3. to express an action or general activity in progress (without time words or with recently, lately)	Victoria has been thinking about changing her job. Michael has been studying hard lately. Robert has been having problems with his back recently.
	4. to express anger, irritation, annoyance, explanation or criticism	She has been using my make-up.
	!!! Sometimes the Present Perfect Simple and the Present Perfect Continuous have identical or slightly different meaning	1. I have lived here for 6 years. (the situation may be permanent) 2. I have been living here for 6 years. (the situation may be temporary)

VERBS USUALLY NOT USED IN ANY OF THE PROGRESSIVE TENSES

VERB	EXAMPLE	OTHER USES OF THIS VERB
<i>be</i>	(a) I am hungry.	
SENSES <i>hear</i> <i>taste</i> <i>smell</i> <i>see</i>	(b) I hear a noise. (c) This food tastes good. (d) I smell gas. (e) I see a butterfly.	You will be hearing from me. (I will write or phone you.) The doctor is seeing a patient. (meeting with)
MENTAL ACTIVITY <i>know</i> <i>believe</i> <i>think</i> <i>understand</i> <i>recognize</i> <i>remember</i> <i>forget</i> <i>mean</i>	(f) I know his phone number. (g) I believe his story. (h) I think he is a kind man. (believe) (i) I understand your problem now. (j) I don't recognize him. (k) I remember my first teacher. (l) I forget his name, (m) I mean this book, not that one.	I am thinking about this grammar. (Certain thoughts are going through my mind right now.) I have been meaning to call you. (intending)
POSSESSION <i>possess</i> <i>own</i> <i>have</i> <i>belong</i>	(n) He possesses many fine qualities. (o) She owns a house. (p) He has a car. (possesses) (q) That belongs to me.	I am having trouble. He is having a good time. (experiencing).

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ATTITUDES <i>want</i> <i>prefer</i> <i>need</i> <i>appreciate</i> <i>love</i> <i>like</i> <i>hate</i> <i>dislike</i> <i>seem</i>	(r) I want to leave now. (s) He prefers to stay here. (t) I need some help. (u) I appreciate your help. (v) I love my family. (w) I like this book. (x) She hates dishonesty. (y) I dislike this book. (z) He seems to be a nice person.	
VERB ATTITUDES <i>look</i> <i>appear</i>	She looks cold. (seems to be) He appears to be asleep. (seems to be)	I am looking out the window. (using my eyes to see) The actor is appearing on the stage.

Note: ***Never ... again*** is not used with the Present Simple
e.g. I'm **never painting** the house by myself **again**.
(NOT: I never paint the house by myself again.)

GRAMMAR EXERCISES

Exercise 1. Expand the following into sentences in order to make true statements with doesn't or don't where necessary.

- water/ boil/at 100°C
Water boils at 100°C.
Rice/ grow/ on trees
Rice doesn't grow on trees.
- chicks/ hatch/ from eggs
- kangaroos/ live/ in Spain
- plants/ need/ water to grow
- rain/ fall/ from clouds
- astronauts/ travel/ in submarines
- cows/ lay/ eggs
- pandas/ live/ in Italy
- elephants/ eat/ meat
- fish/ walk/ on land
- the sun/ set/ in the east
- bees/ give milk
- caterpillars/ turn/ into butterflies
- wool/ come/ from sheep

UNIT 1. COMPUTER USERS. PRESENT FORMS.

Exercise 2. Read the following extracts and put the verbs in brackets into the Present Simple or the Present Continuous. Then, say what use of these tenses each extract shows.

- A. These days, it seems everything 1) is changing (change). Cities 2) _____ (become) bigger and busier every year, technology 3) _____ (develop) faster than ever before, and scientists 4) _____ (learn) more about the way things work.
- B. Water 1) _____ (boil) at 100°C and 2) _____ (freeze) when the temperature 3) _____ (drop) below 0°C. Salt water 4) _____ (be) different, however.
- C. This film 1) _____ (be) great! It 2) _____ (have) an all-star cast and the script 3) _____ (be) very funny. The action 4) _____ (begin) when two young men 5) _____ (try) to rob a bank.
- D. Rogers 1) _____ (kick) the ball and 2) _____ (pass) it to Jones. Jones 3) _____ (run) down the pitch. He 4) _____ (pass) the ball to Smith who 5) _____ (shoot) and 6) _____ (score)!

Exercise 3. Fill in with the Present Simple or the Present Continuous, and then explain the meaning of each verb.

1. This food _____ (taste) delicious.
2. Mother _____ (taste) the sauce to see if it needs more salt.
3. I _____ (think) I'll buy the black dress, not the red one.
4. She _____ (think) of going to study abroad.
5. The Smiths _____ (have) a cottage in the mountains.
6. Susan _____ (have) dinner with her cousin Helen tonight.
7. After a short walk through the park, he always _____ (feel) relaxed and cheerful.
8. I _____ (feel) in my pocket for my keys.
9. Tom _____ (see) the company director in a few minutes.
10. When I open my bedroom window every morning, I _____ (see) the tall cypress tree in the garden.

Exercise 4. Put the verbs in brackets into the Present Simple or the Present Continuous.

1. Dave _____ (live) in Glasgow and _____ (work) for an advertising company. He _____ (have) a good job and _____ (earn) a lot of money. He _____ (meet) many people every day and _____ (lead) a busy life. The company _____ (expand) rapidly and today he _____ (see) a new client.
2. John and Anna _____ (fly) to Paris on Monday for a holiday. Their flight _____ (take off) at 7.10 in the morning and _____ (arrive) in Paris at 8.10. Anna's cousin _____ (own) a house there, so they _____ (stay) with him.
3. My neighbour _____ (bang) on the walls of his flat when he _____ (do) repairs. This week he _____ (install) a new bath, and the noise _____ (drive) me crazy. He _____ (not/seem) to care about the way he _____ (bother) other people.

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4. Tom is an athlete. Every morning he _____ (swim) ten laps in the pool and _____ (lift) weights for an hour. This year he _____ (train) harder because he _____ (want) to compete in the next Olympic Games.

Exercise 5. Put the verb into the correct form, the Present Simple or the Present Continuous.

1. Are you hungry? Do you want (you/want) something to eat?
2. Nicky _____ (think) of giving up her job.
3. (you/ believe) _____ in God?
4. I _____ (feel) hungry. Is there anything to eat?
5. Who is that man? What _____ (he/want)?
6. Who is that man? Why _____ (he/look) at us?
7. Alan says he's 80 years old, but nobody _____ (believe) him.
8. She told me her name, but I _____ (not/remember) it now.
9. Air _____ (consist) mainly of nitrogen and oxygen.
10. I can't understand why he _____ (be) so selfish. He isn't usually like that.
11. He never thinks about other people. He _____ (be) very selfish.
12. Excuse me, _____ (you/speak) English? – Yes, a bit.
13. Listen to those people. What language _____ (they/speak)?
14. Let's go out. It _____ (not/ rain) now.
15. You _____ (always/ watch) television. You should do something more active.
16. The rate of unemployment _____ (decrease) slowly.
17. Water _____ (freeze) at 0 degrees Celsius.
18. We _____ (go) to the opera next Saturday.
19. The hole in the ozone layer _____ (become) bigger and bigger.
20. Mammals _____ (feed) their babies on milk.
21. "What's that noise?" – "It _____ (sound) like Jane playing her trumpet!"
22. I _____ (never go) to that restaurant again! The food was horrible.
23. The Greens _____ (play) golf with my parents this weekend.
24. "What do you know about snakes?" – "I know that they are reptiles and they _____ (lay) eggs."
25. "Your hair _____ (look) great today! Have you had it cut?" – "Yes, I had it done yesterday."
26. Every morning when I _____ (wake up) I _____ (smell) fresh coffee coming from the kitchen.

Exercise 6. Detectives at work. Tom and Nick are watching the house across the street. Something strange is happening. Put the verbs in brackets in the Present Simple or the Present Continuous to make correct sentences.

TOM: – What are you staring (you stare) at?

NICK: – There's a man at the Johnsons' house. He doesn't live (not/live) there. I wonder what he

1) _____ (do)

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TOM: – Perhaps he 2) _____ (visit) the Johnsons.

NICK: – No. They're not at home. They both 3) _____ (work) in town.

They 4) _____ (catch) the same train as Dad every morning. It's strange.

He 5) _____ (watch) the house very carefully.

TOM: – Now he 6) _____ (try) to open the gate, but it's locked. Look!

He 7) _____ (climb) over the garden wall. I can't see him now.

NICK: – Let's follow him. I want to see what he 8) _____ (do)

TOM: – He 9) _____ (go) to the garage. He 10) _____ (carry) a ladder. Now he 11) _____ (put) the ladder up to the bedroom window!

NICK: – He must be a burglar. Hey! You! What 12) _____ (you do)?

MAN: – It's all right, boys. I'm an insurance agent. I 13) _____ (examine) the roof. The Johnsons 14) _____ (know) that I'm here.

Exercise 7. Translate the sentences into English, paying attention to the Present Simple and the Present Continuous forms.

1. – Хто за професією твій батько?
– Він, взагалі-то, психолог, але зараз він не працює. Ти ж знаєш, що рівень безробіття зростає все більше і більше з кожним роком.
2. – Як ти себе почуваєш? Сьогодні ти виглядаєш не дуже добре. Щось сталося?
– Нічого. Я зазвичай відчуваю себе втомленим вранці.
3. Я не розумію, чому Джон поводить себе так егоїстично. Зазвичай він не такий.
4. – Ти йдеш на вечірку до Еми сьогодні ввечері?
– Ну, я не знаю ще. А ти? Я б вважав за краще залишитися вдома, якщо ти не проти.
5. – Пробачте, о котрій годині вилітає літак до Берліна?
– Одну хвилину, я подивлюся. Рейс 502 відправляється о 7:45.
6. По четвергах ми з друзями зазвичай граємо в теніс, але цього тижня ми їдемо всі разом на пікнік, щоб провести цілий день на свіжому повітрі.
7. – Ти чув, Кері і Джон одружуються 13 серпня в соборі Святого Павла ополудні? Ось запрошення на весільну церемонію!
– То це правда!? Я повинна зателефонувати мамі негайно.
8. – Твої парфуми мають приємний аромат. Як вони називаються?
– Спасибі. Це Envy Me від Gucci.
9. – Чим закінчується фільм?
– Головний герой тікає з в'язниці, забирає з банківського сейфа вкрадений мільйон фунтів і відлітає на Кариби, хоча поліція йде за ним по п'ятах!
– Ух, ти! Цей фільм варто подивитися!
10. Сонце сходить на сході, заходить на заході. Місяць обертається навколо землі ... або навпаки. Тато, допоможи мені! Я знову все переплутав.
11. – Я б хотів поговорити з містером Брауном, будь ласка.
– Боюся, в даний момент він не доступний. Він на важливій нараді з агентами ФБР. Передзвоніть пізніше!

THE PRESENT PERFECT AND PRESENT PERFECT CONTINUOUS

Exercise 8. Put each verb in brackets into either the Present Perfect or the Present Perfect Continuous.

1. Susan _____ (not/return) from her skiing holiday yet.
2. We _____ (just/move) in.
3. I _____ (not/see) Thomas since 1995.
4. Sue _____ (clean) for the past three hours.
5. Cindy _____ (never/be) to the United States.
6. She _____ (revise) for the exams since Monday.
7. How long _____ (you/work) here?
8. He _____ (make) ten phone calls since this morning.
9. _____ (you/ever/lie) to your best friend?
10. He _____ (lie) on the couch since he got home from work.

Exercise 9. Using the Present Perfect or the Present Perfect Continuous of the verbs in brackets, complete the sentences, as in the example.

1. Ralph is getting frustrated because the meal he ordered hasn't been served yet. (wait)
He has been waiting for his meal.
2. The estate agent is taking down the "For Sale" sign in front of the house. (sell)
He _____ the house.
3. Jerry is travelling to London on Tuesday. (book)
He _____ a plane ticket.
4. Samantha is reading a letter from Maureen. (receive)
She _____ from her.
5. John started fixing the washing machine this morning. (repair)
He _____ it since 9 a.m.
6. Rachel is getting out of bed. (just/wake up)
She _____.
7. Lisa started working for us in 1992. (work)
She _____ for us since 1992.
8. Elaine is still waiting for the bus. (come/yet)
It _____.

Exercise 10. Fill in gaps with recently, how long, yet, for, always, ever, already, since, so far or just.

1. A: Has Tom finished his exams yet?
B: No. He finishes next Thursday.
2. A: _____ has Janet been working at the hospital?
B: She has been working there _____ she left school.
3. A: How are you finding your new job?
B: Great! I haven't had any problems _____.

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4. A: Is John at home, please?
B: No, I'm afraid he's _____ gone out.
5. A: Have you been waiting long?
B: Yes, I've been here _____ two hours.
6. A: Has Martin _____ been to Spain?
B: No, I don't think so.
7. A: Have you spoken to Mathew _____?
B: Yes. I phoned him last night.
8. A: Can you do the washing-up for me, please?
B: Don't worry. Mike has _____ done it.
9. A: Lucy has _____ been musical, hasn't she?
B: Yes, she started playing the piano when she was five years old.
10. A: Shall we go to that new restaurant tonight?
B: Yes. I have _____ been there. It's really nice.
11. A: Your dog's been barking _____ three hours!
B: I'm sorry. I'll take him inside.
12. A: Have you finished reading that book yet?
B: No, I've _____ started it.

Exercise 11. Put the verb into the more suitable form, the Present Perfect or the Present Perfect Continuous.

1. Where have you been? Have you been playing (you/play) tennis?
2. Look! _____ (somebody/break) that window.
3. You look tired. _____ (you/work) hard?
4. "_____ (you/ever/work) in a factory?" "No, never."
5. "Liz is away on holiday." "Is she? Where _____ (she/go)?"
6. My brother is an actor. _____ (he/appear) in several films.
7. "Sorry I'm late." "That's all right. _____ (I/not/wait) long."
8. "Is it still raining?" "No, _____ (it/stop)."
9. _____ (I/lose) my address book. _____ (you/see) it?
10. _____ (I/read) the book you lent me, but _____ (I/not/finish) it yet. It's very interesting.

Exercise 12. Translate the sentences into English, paying attention to the Present Perfect and the Present Perfect Continuous forms.

1. "Як давно ти знайомий з Моллі?" – "О, ми знайомі з нею цілу вічність!"
2. "Де Сандра?" – "На кухні. Вона все ще готує вечерю. Вона ще не закінчила готувати головну страву. Ти що з голоду вмираєш?"
3. "Ти коли-небудь куштував дороге італійське шампанське Asti з червоною ікрою?" – "Ні, цього літа я якраз збираюся летіти в Неаполь."
4. "Лінда все ще в банку?" – "Ні, вона щойно повернулася."

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5. "Ти часто їдиш відпочивати?" – "Ні, я не відпочивав вже 5 років."
6. Яка жахлива погода! Дощ ллє цілий день. Схоже, він ніколи не припиниться!
7. У моїх дідуся і бабусі сьогодні річниця весілля. Вони одружені 50 років. Це неймовірно! У них четверо дітей, семеро онуків і навіть три правнука!
8. "О, ні! Я знову загубила паспорт!" – "Ти його губиш вже вп'яте. Ти весь час щось губиш. І не питай мене: "Ти не бачив випадково мій паспорт, любий?"
9. "Тобі подобається Париж?" – "О, це саме чудове місто, яке я коли-небудь відвідав. І чому я не приїжджав сюди раніше?"

Exercise 13. Underline the correct tense.

1. Liz and I are good friends. We know/have known each other for four years.
2. Sarah is very tired. She has been working/is working hard all day.
3. "Where is John?" "He's upstairs. He does/is doing his homework."
4. I can't go to the party on Saturday. I am leaving/have been leaving for Spain on Friday night.
5. Jane has finished/is finishing cleaning her room, and now she is going out with her friends.
6. I didn't recognize Tom. He looks/is looking so different in a suit.
7. I don't need to wash my car. Jim washes/has washed it for me already.
8. Ian has been talking/is talking to his boss for an hour now.
9. Claire's train arrives/has arrived at 3 o'clock. I must go and meet her at the station.
10. "Would you like to borrow this book?" – "No, thanks. I have read/have been reading it before."

Exercise 14. Correct the mistakes.

1. They have been to the shops. They'll be home soon.
2. Joe plays in the garden at the moment.
3. I am going to work by car every day.
4. The builders finish the block of flats already.
5. He has been breaking his arm.
6. Sam have just finished reading a very interesting book.
7. Water is boiling at 100 degrees Celsius.
8. John is living here since 1986.
9. I study this subject for five years.
10. Who has use my scissors?

WRITING

Write the composition (150-200 words): "How do you use computer in your studies and in your free time?"

UNIT 2
COMPUTER ARCHITECTURE

Vocabulary Bank Unit 2

Task 1. Read, write the translation and learn the basic vocabulary terms:

- | | |
|--------------------------|--------------------------------|
| 1. adjacent | 24. pen-based (adj) |
| 2. appointment | 25. storage medium |
| 3. binary system | 26. portable (adj) |
| 4. bottleneck | 27. power failure |
| 5. cache (n) | 28. power cord |
| 6. cache hit | 29. price (v) |
| 7. capacity | 30. processor (n) |
| 8. coat (v) | 31. rotate (v) |
| 9. coherency | 32. to attach |
| 10. computer motherboard | 33. slow up (v) |
| 11. crash (v) | 34. system bus |
| 12. decimal system | 35. speed up (v) |
| 13. electricity supply | 36. suitable |
| 14. external | 37. personal digital assistant |
| 15. format (v) | 38. swipe cards |
| 16. handheld (adj) | 39. to measure |
| 17. headphones | 40. track (n) |
| 18. CNIC | 41. versatile (adj) |
| 19. loudspeaker | 42. versatility (n) |
| 20. mainframe (n) | 43. viewable |
| 21. multimedia feature | 44. write-back cache |
| 22. multi-tasking | 45. write-through cache |
| 23. nuclear research | |

UNIT 2.COMPUTER ARCHITECTURE. PAST FORMS.

Task 2. Read and memorize the following word combinations.

1. an uninterruptable power supply (UPS)
2. random access memory (RAM)
3. read only memory (ROM)
4. central processing unit (CPU)
5. a storage device
6. an address bus
7. a data bus
8. a system unit
9. a hard disk
10. a redundant array of inexpensive disks (RAID)

TEXT 2A. COMPUTER ARCHITECTURE

There are different types of computer of varying size and power, including the following:

Supercomputer (the most powerful type of mainframe)

Mainframe (large, very powerful, multi-user i.e. can be used by many people at the same time, multi-tasking i.e. can run many programs and process different sets of data at the same time)

Minicomputer (smaller than a mainframe, powerful, multi-user, multi-tasking)

Personal computer (PC) (single user)

Desktop computer (suitable size for sitting on an office desk)

Workstation (most powerful type of desktop, used for graphic design, etc.)

Portable (can be carried around, can operate with batteries)

Laptop (large portable, can be rested on user's lap)

Notebook (size of a sheet of notebook paper)

Handheld (can be held in one hand)

Pen-based (main input device is an electronic pen)

PDA (personal digital assistant, has functions such as task lists, diary, address book)

Note that the term PC usually refers to an IBM compatible personal computer i.e. an Apple Mac personal computer is not referred to as a PC. A computer that provides a service on a network e.g. storing files, sharing a printer, is known as a server computer. Server computers usually have a UPS (uninterruptible power supply) attached to them. This is a battery that automatically provides an electricity supply to allow the server to shut itself down properly if the main supply fails.

The processor e.g. Pentium, is the most important part of the computer. It processes the data and controls the computer. Powerful computers used as servers often have more than one processor. There are two main types of memory:

- a) RAM (random access memory) holds the program instructions and the data that is being used by the processor,
- b) ROM (read only memory) holds the program instructions and settings required to start up the computer.

The combination of the processor and memory is sometimes referred to as the CPU (central processing unit), although sometimes the processor itself is referred to as the CPU. The other parts connected to the CPU are known as peripherals. These can include input devices, output devices, storage devices and communications devices. Input devices include: keyboards, scanners, barcode readers, digital

UNIT 2.COMPUTER ARCHITECTURE. PAST FORMS.

cameras, microphones and video cameras e.g. webcams (small digital video cameras used on the Web). Output devices include: monitors (VDU display screens), printers, plotters, loudspeakers, headphones. Storage devices include: magnetic tape, floppy disks (diskettes), hard disks, CD-ROMs, CD-R disks, CD-RW disks, DVDs and MO disks. A common communications device is a modem (a modulator/demodulator used for converting digital signals to analogue signals and vice versa to allow a computer to be connected to the ordinary telephone system).

A set of connectors used for carrying signals between the different parts of a computer is known as a bus. Data is transferred constantly between the processor and memory along the system bus. Each part of memory has its own memory address and the processor determines where processed data is stored by sending an address signal along an address bus and data along a data bus. This is synchronised by an electronic clock in the CPU that determines the operating speed of the processor. Transferring data between the processor and RAM can slow up the computer; therefore, some very expensive, extremely fast memory is usually used as a cache to hold the most frequently used data.

In a desktop computer, the CPU (central processing unit) and storage devices (pieces of equipment used for reading from and writing to a storage medium) are normally built inside a system unit which consists of a metal chassis enclosed in a flat desktop or a tower shaped case. Other peripherals are attached to the system unit by cables. Each peripheral uses its own driver card or controller (an expansion card that is plugged into special expansion slots in the system unit). Expansion cards contain the electronics required to communicate with and control the device e.g. video or graphics cards are used for monitors, soundcards are used for audio input/output and NICs (network interface cards) are used for connecting to other computers in a network. Extra memory can also be added to the computer using special memory expansion slots inside the computer. A portable computer that does not have enough space inside to fit expansion cards may use an external device called a port replicator to provide connections for peripherals.

Storage devices in the form of a disk or tape are used to store the programs and data that are not being used. Before a program or data can be used, it must be transferred from the storage device to the main RAM memory. Hard disks consist of a set of magnetic coated metal disks that are vacuum-sealed inside a case to keep out the dust. The magnetic surfaces of the disks are formatted using a read/write head to provide magnetic storage areas. These storage areas form concentric circles called tracks and each track is subdivided into sections called sectors.

The disks are rotated at high speed and read from or written to by the read/write head that moves across the surface of the disks. In server computers, hard disks can be connected together and made to operate as one unit using RAID (a redundant array of inexpensive disks). This can speed up the system and provide a way of recovering data if the system crashes (fails suddenly and completely, usually referring to the failure of a hard disk). There is a variety of optical storage devices that use laser light to read or write to a disk, including: CD-ROMs (compact disk read only memory), CD-R (recordable compact disk), CD-RW (rewritable compact disk), DVD (digital versatile disk - previously known as digital video disk).

An input device called a barcode reader is a special type of scanner for reading barcodes (a set of printed bars of varying thickness that are used to identify a product e.g. used to price items in supermarkets).

When comparing computers, the power of the computer is important. This is mainly determined by the speed and capacity (size) of each part of the computer.

Speed is measured in hertz (Hz) i.e. cycles per second.

Capacity is measured in bytes (B) where 1 byte = 8 bits (binary digits) = 1 character.

UNIT 2.COMPUTER ARCHITECTURE. PAST FORMS.

Task 2. Answer the following questions.

1. What types of computers varying in size and power do you know? 2. Can we speak about a “computer revolution” with the invention of personal computers? Why? 3. What is the most important part of a computer? 4. What is referred to as the CPU? 5. Give five examples of input devices (five examples of output devices). 6. How are signals carried to different parts of a computer? 7. Where can you find the CPU and storage devices in a desktop computer? 8. What external device may a portable computer use? 9. What is the function of storage? 10. What is a hard disk? 11. How does a hard disk function? 12. Where is a barcode reader used? 13. In what storage devices is laser light used? 14. What factors are to be taken into account when buying a computer?

Task 3. Find the English equivalents for the following Russian word combination.

1. засоби зв'язку; 2. шина даних; 3. пристрій введення; 4. запам'ятовуючий пристрій; 5. пристрій зчитування штрихового коду; 6. магістраль системного блоку; 7. ручний комп'ютер; 8. швидкодіючий буфер пам'яті; 9. гнучкий диск; 10. пам'ять з довільною вибіркою

Task 4. Match each item in Column A with its function in Column B.

A Item	B Function
1. RAM	a. controls the cursor
2. processor	b. inputs data through keys like a typewriter
3. mouse	c. displays the output from a computer on a screen
4. clock	d. reads DVD-ROMs
5. 3.5" floppy drive	e. reads and writes to removable magnetic disks
6. monitor	f. holds instructions which are needed to start up the computer
7. keyboard	g. holds data read or written to it by the processor
8. DVD-ROM drive	h. provides extremely fast access for sections of a program and its data
9. cache	i. controls the timing of signals in the computer
10. ROM	j. controls all the operations in a computer

Task 5. Mark the following as True or False.

1. The function of a hard disk drive is to delete all the files stored on a disk. 2. Swipe cards are used to provide a secure means of identifying authorised users of many different facilities such as banks, libraries, and computer labs. 3. A supercomputer is used for processing small amounts of data. 4. Barcodes provide computer readable information on a product so that it can be identified and priced automatically. 5. A cache holds the program instructions and settings required to start up the computer. 6. The capacity of memory is determined by the period of the time required for the signals to travel the distance from the memory to the arithmetic/logic unit. 7. A mainframe computer is designed to be used on an office desk and to be operated by a single user.

Task 6. Complete each sentence choosing the correct preposition from the box.

outside, between, into, in, from, to, from, along, into, from, inside, into, across, to, from, to, into

1. The CPU is a large chip the computer. 2. Data always flows the CPU the address bus. 3. The CPU can be divided three parts. 4. Data flows the CPU and the memory. 5. Peripherals are devices the computer but linked it. 6. The signal moves the VDU screen one side the other. 7. The CPU puts the address the address bus. 8. The CPU can fetch data memory the data bus. 9. A program is read disk memory. 10. The hard disk drive is a sealed case. 11. Tracks are divided sectors.

Task 7. Give the appropriate translation to the Ukrainian words.

1. There are also *комп'ютери загального призначення* in the office, at home, and at school. 2. Twenty or thirty years ago, most books on computers *описували великі, потужні машини*, because they were the most common. 3. The basic parts of *персонального комп'ютера* for the home are *мікропроцесор і клавіатура*. 4. All of these disk platters inside the sealed case *обертаються з однаковою швидкістю* but each disk has its own *головку считывания записи*. 5. *Гнучкі диски* are a form of *портативного запам'ятовувального пристрою* that can be inserted into a computer's *дисковод*. 6. Typically, *кожний байт зберігає один символ*, using the same *метод двоїчного коду* practiced in primary coding. 7. *Інтегральна схема* constituted another *важливий крок* in the growth of computer technology. 8. The method of *обробки даних* as well as *наявні периферійні пристрої* define computer generations. 9. *Різноманітність* and convenience of the microprocessor has altered *всю архітектуру* of modern computer systems. 10. The speed of modern computers is the speed of *звернення до пам'яті*.

Task 8. Translate the following sentences into English.

1. Комп'ютер являє собою пристрій, що здатний виконувати чітку послідовність операцій, визначену програмою. 2. Процесор, пам'ять і периферійні пристрої взаємодіють між собою за допомогою шин, стандартизація яких робить архітектуру комп'ютера відкритою. 3. Внутрішня пам'ять поділяється на оперативну, інформація в якій може змінюватися процесором в любий момент часу, і постійну, інформацію якої процесор може тільки зчитувати. 4. Периферійні пристрої пов'язують комп'ютер із зовнішнім світом. 5. Архітектурний вигляд РС-сумісного комп'ютера визначається рядом властивостей, що забезпечують можливість функціонування програмного забезпечення, що керує периферійним обладнанням. 6. Кешування основної пам'яті для сучасних процесорів є засобом істотного підвищення продуктивності системи. 7. Пластины (platter) дисків можуть бути гнучкими або жорсткими, але в будь-якому випадку їх матеріал не повинен сильно змінювати свій розмір з часом і під дією перепадів температур.

Task. 9. Find the answers to these questions in the following texts.

1. What is one of the main causes of a PC not running at its highest potential speed?
2. What word in the text is used instead of 'buffer'?
3. What device looks after cache coherency?
4. What is the main alternative to 'write-through cache'?
5. When does a write-back cache write its contents back to main memory?
6. When is data marked as 'dirty' in a write-back cache?
7. What determines what data is replaced in a disk cache?

TEXT 2B. CACHE MEMORY

Most PCs are held back not by the speed of their main processor, but by the time it takes to move data in and out of memory. One of the most important techniques for getting around this bottleneck is the memory cache.

The idea is to use a small number of very fast memory chips as a buffer or cache between main memory and the processor. Whenever the processor needs to read data it looks in this cache area first. If it finds the data in the cache then this counts as a 'cache hit' and the processor need not go through the more laborious process of reading data from the main memory. Only if the data is not in the cache does it need to access main memory, but in the process it copies whatever it finds into the cache so that it is there ready for the next time it is needed. The whole process is controlled by a group of logic circuits called the cache controller.

One of the cache controller's main jobs is to look after 'cache coherency' which means ensuring that any changes written to main memory are reflected within the cache and vice versa. There are several techniques for achieving this, the most obvious being for the processor to write directly to both the cache and main memory at the same time. This is known as a 'write-through' cache and is the safest solution, but also the slowest.

The main alternative is the 'write-back' cache which allows the processor to write changes only to the cache and not to main memory. Cache entries that have changed are flagged as 'dirty', telling the cache controller to write their contents back to main memory before using the space to cache new data. A write-back cache speeds up the write process, but does require a more intelligent cache controller.

Most cache controllers move a 'line' of data rather than just a single item each time they need to transfer data between main memory and the cache. This tends to improve the chance of a cache hit as most programs spend their time stepping through instructions stored sequentially in memory, rather than jumping about from one area to another. The amount of data transferred each time is known as the 'line size'.

If there is a cache hit then the processor only needs to access the cache. If there is a miss then it needs to both fetch data from main memory and update the cache, which takes longer. With a standard write-through cache, data has to be written both to main memory and to the cache. With a write-back cache the processor needs only write to the cache, leaving the cache controller to write data back to main memory later on.

HOW A DISK CACHE WORKS

Disk caching works in essentially the same way whether you have a cache on your disk controller or you are using a software-based solution. The CPU requests specific data from the cache. In some cases, the information will already be there and the request can be met without accessing the hard disk.

If the requested information isn't in the cache, the data is read from the disk along with a large chunk of adjacent information. The cache then makes room for the new data by replacing old. Depending on the algorithm that is being applied, this may be the information that has been in the cache the longest or the information that is the least recently used.

The CPU's request can then be met, and the cache already has the adjacent data loaded in anticipation of that information being requested next.

Task 10. Match the terms in Table A with the statements in Table B.

Table A	Table B
1. cache hit	a The process of writing changes only to the cache and not to main memory unless the space is used to cache new data
2. cache controller	b The amount of data transferred to the cache at any one time
3. cache coherency	c The process of writing directly to both the cache and main memory at the same time
4. write-through cache	d The processor is successful in finding the data in the cache
5. write-back cache	e Ensuring that any changes written to main memory are reflected within the cache and vice versa
6. line size	f The logic circuits used to control the cache process

Task 11. Mark the following as True or False:

1. Cache memory is faster than RAM.
2. The processor looks for data in the main memory first.
3. Write-through cache is faster than write-back cache.
4. Write-back cache requires a more intelligent cache controller.
5. Most programs use instructions that are stored in sequence in memory.
6. Most cache controllers transfer one item of data at a time.
7. Hardware and software disk caches work in much the same way.

GRAMMAR REVIEW.**PAST FORMS**

	Past Simple	Past Continuous	Past Perfect	Past Perfect Continuous
When	yesterday, two days ago, last week	at 5 p.m., at noon, from 2 p.m. to 4 p.m., when he entered	by 5 o'clock	for two hours, for three months, for a long time
Affirmative sentence	I/she/he/it/we/you/ they played/wrote	I was playing She/he/it was playing You/we/they were playing	I/she/he/it/you/we /they had played/written	I/she/he/it/you/we/they had been playing/writing
Negative sentence	I/she/he/it/we/you/ they did not play/write	I was not playing She/he/it was not playing They/you/we were not playing	I/she/he/it/you/we /they had not played/written	I/she/he/it/you/we /they had not been playing / writing
General question	Did I/she/he/it/we/you/ they play /write?	Was I playing? Was she/he/it playing? Were you/we/they playing?	Had I/she/he/it/you/we /they played/written?	Had I/she/he/it/you/we/they been playing/writing?
Wh- question	What did I/she/he/it/we/you/ they play/write?	What was I playing? What was he/she/it playing? What were they/you we playing?	What had I/she/he/it/you/we /they played/written?	What had I/she/he/it/you/we/they been playing/writing?

Adverbs of frequency (Signal Words)	Use	Example
Past Simple		
yesterday, 2 minutes ago, in 1990, the other day, last Friday	1. We use it for completed activities, events or situations that happened in the past at a definite time. These actions and situations were started and finished in the past. a) The time can be given in the sentence b) The time is asked about c) The time is not given in the sentence, but it is clear from a context that the action or situation finished in the past.	a) I came home at 6 o'clock. When he was a child, he didn't live in a house. b) When did they get married? c) He is 20 years old. He was born in Canada. - Alan: I've been to Iceland. (present perfect) - Greg: Did you enjoy it? (past simple) This morning I went to the supermarket. My brother lived in London for six years. (he doesn't live there anymore)
	2. to describe habits or actions that happened often in the past Note: This use is also often expressed with used to	We walked to school every day. He always drank a glass of milk in the morning. Bob used to smoke 20 cigarettes a day.
	3. to describe actions that happened one after another in the past. (when we tell a story)	Charles entered the hall and looked around. He took off his coat and put it on a chair. He was at home. It happened one night in the winter.
	4. to refer to the historical past or to events that have happened in the distant past relative to the speaker	World War II ended in 1945. Romans built strong bridges.
	5. for reporting what someone said (converting from direct to reported speech)	David said that he was tired . The doctor told me that I would have to stay in the hospital for a week.
	6. to talk about action in the past that take place in the middle of another action	When Peter arrived, I was reading a book. I was having a bath when the phone rang.
	7. for making second conditional sentences when we talk about an imaginary or unlikely situation and to describe its result. (If + past simple, would + infinitive)	If I won the lottery, I would travel the world. If I were you, I wouldn't marry him.
Past Continuous		
when, while, all day long all night long	1. to describe an action that was taking place at a specific point in time in the past.	What were you doing at 7 p.m. yesterday? Last summer at this time he was visiting Mexico. They were dancing at a friend's birthday party last night at 10.30 p.m.
the whole evening yesterday	2. to describe an action that was interrupted by another action in the past. The action with the longest duration is in the past continuous.	While I was walking down the street I met an old friend. They were playing cards when Jim came. He phoned as we were leaving the house.
all the	3. to indicate that two actions in the past	While I was taking a shower, mother was

morning yesterday	were in the progress simultaneously (with while)	cooking breakfast. While I was studying in one room my elder sister was having a party in the other room.
yesterday at 4	4. to express action that were in progress at the time of another particular time	It was snowing all morning. They were driving all night long.
at that time the day before yesterday	5. to talk about irritating repeated actions in the past (with always, constantly)	My girlfriend was always coming late. He was always forgetting to close the door.
from 5 till 6 last Monday	6. to make polite inquiries	I was wondering if you could lend me your new car for a few hours.
when mother came home...	7. to describe the scene at the beginning of a story	It was early in the morning. People were going to work and children were hurrying to school.
Past Perfect		
with adverbs like already, until, already... by, before, after, just; if either before or after is used Past Simple may be used instead Past Perfect)	1. to say that something had already happened before another action or specific time in the past * the action which occurs previously in time is expressed in the past perfect tense, and the action which occurs later is expressed in the past tense	When Linda arrived her husband had left. I read in the newspaper that he had made a great discovery. They were sure they had met the girl before. John had repaired the car by 6 o'clock. Lilly had already finished her homework when Victoria came.
	2. in reported speech after verbs like told, asked, said, wanted, wondered, explained	He told me that he had never been in London. I asked him how many books he had sold. Your parents wanted to know what you had done yesterday. We wondered if Daniel had passed his final exam.
	3. to show regret about the past	I wish I had brought my camera. (but I didn't) I wish we had stayed at another hotel.
	4. in third conditional , also called conditional type 3 (if + past perfect in the 'if' clause, perfect conditional in the main clause). This is a structure we use to talk about unreal conditions in the past.	If I had written the report last week I would have given it to you. If the children had been good their mother would have taken them to the zoo. He would have solved the problem if he had known how.
	5. with conjunctions like no sooner ... than or hardly/barely ... when	No sooner had I returned home than it began to snow. Hardly had he finished working, when his girlfriend arrived.
	6. a state that started in the past, and continued up to sometime in the past	I had lived in Spain for 3 years before I got used to the country. He had worked there for two years before he got fired. They had lived in New York for 5 years before they moved to Los Angeles.

Past Perfect Continuous		
For since	1. to express an ongoing action in the past before a particular time or another action in the past. The Past Perfect Continuous emphasizes duration of time before something.	Susan had been studying Spanish for 3 years before she started to learn English. He had been running until he was out of breath . They had been watching TV for two hours before Mike came . Diana had been playing tennis for half an hour when it began to rain. I had been writing letters before lunch. At 10 o'clock Kate had been playing the piano for two hours. (She began at 8 o'clock and at 10 o'clock she was still playing.)
	2. for past events or actions which had a result in the past.	The grass was wet . It had been raining all morning. Tom was very tired . He had been working in the garden for a long time.
	3. The Past Perfect Continuous also appears in third conditional sentences and in reported speech, when we want to emphasize duration of time .	If he hadn't been reading for hours last night, he would have got up earlier. She said she had been teaching English for the last three years in Japan.
	!!! Remember, that we use the Past Perfect for finished actions in the past and with state verbs (<i>be, know, belong, hear, believe, like, mean, etc.</i>).	Peter had been there for nearly 2 hours when they finally arrived .

THE PRESENT PERFECT AND PAST SIMPLE

I have done**I did**

1. Дія відбулася в минулому без точної вказівки часу. I have bought a new car.	1. Дія відбулася в минулому з точною вказівкою часу. I bought this car ten years ago.
2. Дія розпочалася в минулому і продовжується на даний момент (обставини не змінилися). I have been a clerk for two years.	2. Дія, що завершилася в минулому не має зв'язку з теперішнім (обставини змінилися). I was a clerk for seven years. And I am retired now.
3. Про новину говорять вперше. I have found your keys.	3. Уточнення новини, надається додаткова інформація. Thanks. Where did you find them?
4. Період виконання дії ще не закінчився. I haven't done any work this afternoon. (говорять вдень, а не ввечорі)	4. Період, коли дія відбувалася, вже закінчився. I didn't do any work this afternoon. (про події в день говорять ввечорі)

THE PRESENT PERFECT CONTINUOUS AND PRESENT PERFECT**I have been doing**

Дія відбувалася в минулому (процес) і призвела до певних результатів в теперішньому часі.
I am tired. **I have been working** hard the whole day long.

I have done

Завершена дія, коли нас цікавить сам результат.

I have washed the dishes.

Used to	to say that something regularly happened in the past but no longer happens (an old habit , to emphasize repetition in past positive sentences) For past situations (which no longer exist) It is better not to use "used to" in questions or negative forms; however, this is sometimes done in informal spoken English. It is better to ask questions and create negative sentences using Simple Past.	I used to play tennis a lot, but now I'm too lazy. (also would play tennis) We used to live in a flat. (not would) She used to have long hair but she cut it some time ago. Sarah used to be fat, but now she is thin.
Would	expresses past repeated actions and routines – not states 'would' is slightly more formal, more 'bookish' and can convey the idea that the speaker is reminiscing about the past. It is often used in writing to talk about the past in a misty-eyed, sentimental way.	When I was young, I would go for a walk before. (also I used to go) In those days people would draw water from the village well. When I was a child I would wake up to the sound of birds singing.
Be/Get used to	to express habitual actions and means 'be/get accustomed to', 'be in the habit of', it is not new or strange to me.	She is used to driving on the left. He is used to living alone. Notice! not she is used to drive
Was going to	Expresses actions one intended to do but didn't	She was going to buy a new watch but unfortunately she couldn't afford one.

GRAMMAR EXERCISES

Exercise 1. Put the verbs into present simple or past simple.

1. you..... (be) to America before?
No. This is my first time.
Did you know that Christopher Columbus..... (find) America?
Really? I never knew it was lost!
2. When you (sell) me this car this morning, you (say) it was trouble-free. Since then, the brakes (fail) and the door (fall) off.
Well, sir, I did sell you the car but the trouble was free!
3. Doctor, I..... (have) a sore stomach ever since I (eat) three crabs last week.
..... they..... (smell) bad when you (take) them out of their shells?
What do you mean - took them out of their shells?
4. Now, everyone..... (read) the chapter on Lord Nelson for homework?
Yes, sir.
Kevin, in which battle..... Lord Nelson..... (die)?
Er, his last one, sir?
5. I (buy) this diamond ring from a man in the street. It's for my girlfriend.
Are they real diamonds?
I hope so. If not, the man..... just..... (cheat) me out of £5.
6. How's your sister?
She (go) on a very strict diet to lose weight.
And how is she getting on?
Fine. She (disappear) last week.
7. Mrs Smith is very upset. She thinks she (lose) her cat.
When she last..... (see) it?
Four days ago.
Why doesn't she put an advertisement in the newspaper?
Don't be silly. Her cat can't read.
8. My dad never (visit) the dentist.
My dad will never go back to the dentist.
Why? What happened?
The dentist..... (take) all his teeth out.
What..... your dad (say)?
Never again! Never again!
9. Robert was fishing in a private lake. An old man came up to him and asked:
..... you (catch) anything?
Yes. Three big fish since I (start) this morning.
My name is Lord Arton and I own this lake. Oh. My name is Robert and I'm a terrible liar!

UNIT 2.COMPUTER ARCHITECTURE. PAST FORMS.

Exercise 2. Put the verbs in brackets in the correct tense form. (The Present Simple, Past Simple, Present Continuous)

1. He often brings (bring) me flowers.
2. _____ (you/meet) Paul yesterday?
3. Father _____ (work) in the garden now.
4. What _____ (you/do) at the moment?
5. Mr Jones _____ (paint) his house last month.
6. He _____ (go) to school on foot every day.
7. It _____ (be) hot yesterday.
8. The baby _____ (not/sleep) now.
9. He never _____ (drive) fast.
10. I _____ (not/take) John to school yesterday because he wasn't well.
11. Planes _____ (take off) and _____ (land) at Heathrow all day.
12. "Where is Mike?" – "He _____ (stay) with his grandmother this weekend.
13. I _____ (not/like) peanut butter.
14. "What time _____ (your plane/leave)?" – "At 7.45."
15. At what time _____ (the play/begin) last night?
16. "What _____ (you/read)?" – "It's a book by Barbara Cartland."
17. " _____ (you/play) the piano?" – "No, I don't."
18. Dennis Johnson _____ (work) for an insurance company.
19. Mr Baker _____ (come) home at 6 pm last night.
20. Uncle Victor is 88 years old. He _____ (see) everything and _____ (do) everything.
21. Dennis _____ (not/like) his work much.
22. Last week he _____ (sell) his car and _____ (buy) a new one.

Exercise 3. Complete the sentence with the past simple form of the verb in brackets. Then decide if each sentence is True or False. Check the factual answers after the exercise.

1. Greek actors (wear) wore masks and special boots. *True*
2. Spartan children (take) _____ baths only two or three times a year.
3. The philosopher Socrates (drink) _____ poison and died.
4. Alexander the Great's army (go) _____ as far as China.
5. Heron of Alexandria (make) _____ a kind of jet engine.
6. The Roman Emperor Caligula's name (mean) _____ "Happy Soldier".
7. Roman mathematics (have) _____ no zero.
8. Most Roman girls (get) _____ married at the age of 18.
9. Roman soldiers (pay) _____ for their own equipment and food.
10. The Romans (know) _____ how to make soap and cement.

All true except: d the army went as far as India; f Caligula meant "Little Boot"; h girls married at 14.

Exercise 4. Put the verbs in brackets into the Past Simple or Past Continuous.

1. When I _____ (come) home, my little sister _____ (sleep).
2. When Kate _____ (open) the door, the children _____ (dance) round the fir-tree.
3. He _____ (read) on the sofa when Jill _____ (come) in and _____ (sit) down beside him.
4. She _____ (look) out of the window when I _____ (see) her.
5. I _____ (walk) along the street with my friend when a tram _____ (pass).
6. When I _____ (wash) the floor, I _____ (find) my old toy under the sofa.
7. When granny _____ (read) a book on the sofa, she _____ (fall) asleep.
8. When Nick _____ (ring) me up yesterday, I _____ (help) my mother.
9. When Mike _____ (play) in the yard, he _____ (find) a ball.
10. When I _____ (prepare) breakfast in the morning, I _____ (cut) my finger.
11. When I _____ (go) to the stadium, I _____ (meet) Kate and Ann.
12. When we _____ (walk) up the hills it suddenly _____ (start) raining.
13. When they _____ (sail) down the river, they _____ (see) a little island.
14. I _____ (play) the piano when my mother _____ (ask) me for dinner.

Exercise 5. Underline the correct word or phrase in each sentence.

1. While I *washed/was washing* my hair, the phone *rang/ringed*.
2. How *did you felt/did you feel* yesterday afternoon?
3. When I *got/was getting* home I *received/was receiving* a phone call.
4. Last summer I *was going swimming/went swimming* every weekend.
5. When the dog *bit/was biting* Laura's leg, she *screamed/was screaming*.
6. We *sang/sung* some songs and then *ate/eat* some sandwiches.
7. When you *fell/felt* over the cliff, what *happened/was happening* next?
8. While Mary *washed-up/was washing-up*, she *broke/was breaking* a cup.
9. While *he took / was taking* a bath, Archimedes *discovered/was discovering* the principles of density and buoyancy.
10. When Edouard Benedictus, a French scientist, *worked/was working* in his laboratory, he *dropped / was dropping* a glass bottle which had some plastic inside and *invented/was inventing* safety glass.
11. Columbus *arrived/was arriving* in America while he *tried/was trying* to reach the Far East.
12. Alexander Fleming *discovered/was discovering* penicillin by accident while he *looked/was looking* at some old experiments.
13. While Hiram Bingham *climbed/was climbing* in the mountains of Peru in 1911, he *discovered/was discovering* the lost city of Macchu Picchu.
14. While Isaac Newton *sat/was sitting* under an apple tree, an apple *fell/was falling* on his head, and he *understood/was understanding* gravity.
15. While Dr Harry Coover *tried/was trying* to invent a new kind of plastic, he *made/was making* a very soft substance which *stuck/was sticking* things together. It was Super glue.
16. While he *observed/was observing* the Moon through his telescope, Galileo *realized/was realizing* that it had mountains and craters.
17. I *didn't see/saw* where the bus stop was, so I *was missing/missed* the bus.
18. What *did you do/were you doing* when I *phoned/was phoning* you last night? There was no reply.

UNIT 2.COMPUTER ARCHITECTURE. PAST FORMS.

Exercise 6. Open the brackets. Use past simple or past continuous.

1. I _____ (open) the shutters and _____ (look) out. The car _____ (stand) where I had left it.
2. Suddenly I _____ (realize) that they _____ (not/pay) attention to me any longer. They _____ (mutter) something and all _____ (look) in the same direction. I _____ (turn) my head and _____ (look) where they all _____ (look). A man _____ (come) slowly down a steep little street that _____ (lead) uphill between the house on my right.
3. On my left I _____ (see) the lights of the first house of the village. And I _____ (hurry) towards it through the wood when a sudden flash of light _____ (make) me stop.
4. At that time I _____ (look) for the job.
5. Miss Nobs _____ (not/see) him leave the house. At half past four she _____ (make) herself a cup of tea in a small recess off the main corridor.
6. The idea first _____ (occur) to me that afternoon as I _____ (back) the car into the garage.
7. I probably _____ (drop) the key when I _____ (fish) for small change in my bag at the news-stand.
8. All through the night I _____ (hear) them work, open drawers, drag cases over the floor. They _____ (pack).

Exercise 7. Put the verbs in brackets into past perfect or past simple.

1. They _____ (eat) everything by the time I _____ (arrive) at the party.
2. Last night I _____ (arrive) home at half past twelve. I _____ (have) a bath and then I _____ (go) to bed.
3. Nobody _____ (come) to the meeting because Ann _____ (forget) to tell people about it.
4. When the police _____ (arrive), the car _____ (go).
4. The house was very quiet when I got home. Everybody _____ (go) to bed.
6. All the garages _____ (close) by the time we _____ (cross) the border.
7. I _____ (try) telephoning her several times but she _____ (leave) the city.
8. When we were on holiday, the weather _____ (be) awful.
6. The car _____ (go) when I _____ (look) into the street.
7. You already _____ (leave) when the trouble _____ (start).
8. When I _____ (find) the purse, someone _____ (take) money out of it.
9. We arrived at the cinema late. The film already _____ (begin).
10. Richard already _____ (go) when his boss _____ (call).

Exercise 8. Complete the sentence with the Past Simple or Past Perfect form of the verb in brackets.

1. When I (try) tried to use my laptop, I realized the battery (run) _____ down.
2. I (turn) _____ the computer off, but forgot that I (not save) _____ my work.

UNIT 2.COMPUTER ARCHITECTURE. PAST FORMS.

3. I only remembered I (not pay) _____ the bill when my Internet connection (stop) _____ working.
4. When I (receive) _____ the e-mail, I couldn't understand who (send) _____ it.
5. When I (check) _____ the instructions, I understood what I (do) _____.
6. I knew I (receive) _____ a virus when I (run) _____ the anti-virus program.
7. As soon as I (download) _____ the document, I knew I (make) _____ a mistake.
8. I could see what (go) _____ wrong as soon as I (look) _____ inside the printer.
9. I knew I (press) _____ the wrong key when nothing (happen) _____.
10. When the screen (go) _____ blank, I couldn't understand how it (happen) _____.

Exercise 9. Put the verbs into the Past Continuous, Past Perfect or Past Perfect Continuous.

1. It was very noisy next door. Our neighbours were having (have) a party.
2. We were good friends. We _____ (know) each other for years.
3. John and I went for a walk. I has difficulty keeping up with him because he _____ (walk) so fast.
4. Sue was sitting on the ground. She was out of breath. She _____ (run).
5. When I arrived, everybody was sitting round the table with their mouths full.
They _____ (eat).
6. When I arrived, everybody was sitting round the table and talking. Their mouths were empty, but their stomachs were full. They _____ (eat).
7. Jim was on his hands and knees on the floor. He _____ (look) his contact lens.
8. When I arrived, Kate _____ (wait) for me. She was annoyed with me because I was late and she _____ (wait) for a long time.
9. I was sad when I sold my car. I _____ (have) it for a very long time.
10. We were extremely tired at the end of the journey. We _____ (travel) for more than 24 hours.

Exercise 10. Use had or hadn't to complete the following:

1. When her daughter arrived home from a party, Mrs Thompson asked her if she _____ (thank) her hostess. "No," she said. "The girl in front of me thanked her and the lady said 'Don't mention it' so I didn't."
2. "Here's your coffee, madam. It's a special coffee all the way from Brazil." – "Oh, I was wondering where you _____ (go)."
3. A stressed managing director went to his doctor for help in getting to sleep. The workers at his factory _____ (go) on strike. They wanted better pay and conditions. The director _____ (try) sleeping pills but they _____ (not work). The doctor asked the director to lie quite still in bed at night and to count sheep. The following day the director returned to the doctor's surgery. "Well," said the doctor. "Any success?" – "I'm afraid not", he said. "By the time I _____ (count) the thirty-first sheep they _____ (all go) on strike for shorter hours and lower fences."

UNIT 2.COMPUTER ARCHITECTURE. PAST FORMS.

4. Kenneth is so stupid. He phoned his teacher at school yesterday to say he couldn't come to school because he _____ (lose) his voice!
5. A doctor _____ (just give) a boy an injection in his arm. He was about to put a bandage on his arm when the boy said, "Would you mind putting the bandage on my other arm, doctor?" – "Why? I'm putting it over your vaccination so that the other boys will know not to bang into it." – "You don't know the boys in my school, doctor!"
6. "Mum! Mum! Dad's fallen over a cliff." – "Is he okay?" – "I don't know. He _____ (not stop) falling when I left."
7. "A beggar stopped me the other day and said he _____ (not have) a bite for days." "What did you do?" – "I bit him!"
8. It was my grandmother's birthday yesterday. "Is she old?" – "Well, by the time we lit the last candle on her birthday cake, the first one _____ (go) out!"
9. Harry Smith was sent to Central Africa by his company. He sent a postcard to his wife as soon as he arrived. Unfortunately it was delivered to another Mrs. Smith whose husband _____ (die) the day before. The postcard read: "ARRIVED SAFELY THIS MORNING. THE HEAT IS TERRIBLE."

Exercise 11. Put the verbs in brackets into the Present Perfect or Present Perfect Continuous.

1. Look! Somebody _____ (break) the window.
2. I wonder if John _____ (forget) my number. I _____ (expect) him to call for the past two hours.
3. You look very upset. What _____ (happen)?
4. You _____ (not finish) that book yet? You _____ (read) it for more than a week.
5. The meat must be nearly ready. I _____ (cook) it for nearly an hour.
6. What you _____ (do) for the last two hours? – I _____ (sit) here working at this problem.
7. I _____ (lose) my key. Can you help me look for it?
8. My brother is an actor. He _____ (appear) in several films.
9. Sorry! I'm late. – That's all right. I _____ (not wait) long.
10. She just _____ (sell) two of her paintings. – She's lucky. I _____ (paint) for five years and I _____ (not sell) a single picture yet.
11. He _____ (sleep) since ten o'clock. It's time he woke up.
12. I _____ (pump) up three tyres. Would you like to do the fourth?
13. That boy _____ (eat) seven ice-creams.
14. That helicopter _____ (fly) round the house for the last hour; do you think it's taking photographs?
15. We _____ (walk) ten kilometers.
16. We _____ (walk) for three hours.
17. I _____ (work) for him for ten years and he never once say "Good morning" to me.
18. The radio _____ (play) since 7 a.m. I wish someone would turn it off.
19. He _____ (study) English for two years and doesn't even know the alphabet yet.

Exercise 12. Complete the sentence with *used to* + the verb in brackets in positive, negative or question form.

1. What things used to be (be) different in the past?
2. For a start, all the continents _____ (form) one large land mass.
3. Obviously, there _____ (be) cities and buildings, and forest covered a third of the Earth.
4. The climate was different, and animals such as the hippopotamus and rhinoceros _____ (exist) in northern Europe.
5. Many mountains in Europe _____ (be) active volcanoes.
6. Early people _____ (live) in complex societies, but in small groups in places where they could find food.
7. What _____ (eat) ? They _____ (eat) whatever they could find.
8. Early people _____ (stay) in the same place, but _____ (travel) long distances, following the animals they needed for food.
9. Jack _____ (have) a beard but he shaved it off.
10. My mother _____ (read) to me every night.
11. In the holidays we _____ (meet) at the beach every morning.
12. I _____ (not like) spinach, but now I do.

Exercise 13. Underline the correct form.

1. When the police stopped/*were stopping* Smith's car for a routine check, they realized that he was the man who *robbed*/had robbed the bank.
2. I woke up in the middle of the night and *turned on*/was turning on the light. Someone or something *climbed* / was climbing in my window!
3. Unfortunately Jan *arrived*/was arriving at the station at 3.25, and found that she *missed*/had missed the train.
4. The doctors *tried*/had been trying their best, but while they were performing the operation, the patient *died*/was dying.
5. We'd been watching the film for half an hour before we realized that we *were making*/had made a terrible mistake. We *went*/had gone into the wrong cinema!
6. On the morning of the accident, Mr Davis *just finished*/had just finished a night shift at a local factory, and *didn't have*/hadn't had any sleep for 24 hours.
7. I'm sorry I *didn't answer*/wasn't answering the phone earlier, but I *was painting*/had been painting the ceiling in my bedroom.
8. The office Marlowe was visiting was on the 15th floor, and unfortunately the lift *wasn't working*/hadn't been working, so by the time he arrived at the top of the stairs, he *was*/had been out of breath.
9. On Christmas morning when they *woke up*/were waking up, the children looked eagerly out of the window. It *snowed*/had been snowing, and the garden was covered in a thick white carpet.
10. After the two film stars *landed*/were landing at the small airport, they left quickly in a van that *was waiting*/had been waiting for them since the early morning.

Exercise 14. Translate the sentences.

1. Вчора я зустрів друга, якого не бачив цілу вічність. 2. Поки дідусь щось читав у своєму улюбленому кріслі бабуса в'язала, їх кіт забрався на стіл і з'їв всю сметану. 3. Перед тим як він почав читати цю книгу і виписувати нові слова, він подивився всі журнальні статті з цього питання. 4. Я почав шукати свою машину з поліцією, хоча до цього чотири дні намагався знайти її за допомогою своїх друзів. 5. Де ви вчора були о дев'ятій вечора? У цей час ми обговорювали план нашої роботи. 6. Він багато подорожував, перш ніж написати цю книгу. 7. Ви подякували йому за подарунок? Так. Ще вчора. 8. Ви жили тут три роки тому? Тоді я жив у Лондоні. Ми переїхали сюди в 1995. 9. Я чекав на Вас з шостої години. Чому Ви не прийшли вчасно? Моя машина зламалася. 10. Вчора я прийшов додому о восьмій годині вечора. Коли я увійшов, Енн дивилася телевизор. Вона вже бачила цей фільм, але хотіла подивитися ще раз. 11. Коли Джо йшов по вулиці, він побачив дівчину, яка була його першим коханням. 12. Він навчився читати в п'ять років. До того як він пішов до школи, він прочитав багато книжок. 13. Я його бачив сьогодні в 6:00 вечора. Він ще працював. 14. Вони взяли таксі і поїхали в готель, в якому Том заздалегідь зарезервував два двомісних та один одномісний номер.

SPEAKING/WRITING

Task. Topics for discussion (Speaking/Writing).

1. Name the four types of general purpose computers.
2. Explain the importance of learning about computers.
3. Describe the individual process of the computing cycle.
4. Distinguish between random access and read-only memory.
5. Speak on the way the information is stored in the computer.
6. Explain the uses of various kinds of peripheral devices.
7. Even if minis and mainframes were inexpensive, why it is unlikely that you would buy one for your home.

UNIT 3
PERIPHERALS

Vocabulary Bank Unit 3

Task 1. Read, write the translation and learn the basic vocabulary terms:

- | | |
|-----------------------------------|---------------------------|
| 1. advantage | 29. non-impact printers |
| 2. application | 30. non-printing features |
| 3. approximate | 31. peripheral device |
| 4. attach | 32. pixel (n) |
| 5. back up (n, v) | 33. power-hungry |
| 6. built-in | 34. precise dots |
| 7. carbon paper | 35. primarily |
| 8. commonly known | 36. raster |
| 9. comparison | 37. resolution (n) |
| 10. dedicated | 38. reveal |
| 11. directly | 39. sales invoice |
| 12. dot-matrix printer | 40. sensitive |
| 13. drawback | 41. significant |
| 14. droplets | 42. simultaneously |
| 15. employ | 43. solid-ink printer |
| 16. feedback | 44. substantial |
| 17. hardcopy device | 45. sufficient |
| 18. impact printers | 46. technology |
| 19. improvement | 47. convert |
| 20. inappropriate | 48. enter |
| 21. ink-jet | 49. superimpose |
| 22. inkless printer | 50. transparencies |
| 23. keypad | 51. typewriter |
| 24. keystroke | 52. vector-based artwork |
| 25. layer | 53. versatile disk |
| 26. layout | 54. visual aid |
| 27. LCD ((Liquid Crystal Display) | 55. warm-up time |
| 28. legal documentations | 56. wireless |

Text A. PERIPHERALS

A peripheral is a device connected to a host computer, but not a part of it, and is more or less dependent on the host. It expands the host's capabilities, but does not form part of the core computer architecture. The examples are input/output devices such as printers, image scanners, drives, microphones, loudspeakers, webcams, and digital cameras.

A keyboard is a human interface device which is represented as a layout of buttons. Each button, or key, can be used to either input a linguistic character to a computer, or to call upon a particular function of the computer. Traditional keyboards use spring-based buttons, though newer variations employ virtual keys. The way of connection is the same to printers.

A mouse is an input device that operates by controlling the position of the cursor (in the shape of an arrow) on the monitor. A mouse is a pointing device that combines the traditional cursor movements—accomplished by pressing arrow keys—with the means to select an object on the display screen. One or more buttons located on the top of the mouse enable you to choose options. Small portable computers sometimes use a built-in or attachable trackball in lieu of a mouse. Rolling the trackball with your fingertips produces the same results as moving the mouse.

Light pens, often used in stores, are able to input a large amount of data quickly by moving a light beam across a barcode. This converts the barcode into digital data that is usable by the computer. Other types of light pens are also used for computer-aided design (CAD) and pen-based computers; the latter interpret and convert human writing into computer form.

A scanner is an input device that acts like a miniature photocopy machine connected to a computer, copying graphic images into the computer and allowing typewritten pages to be entered without retyping. Scanners include both hand-held and desktop models. A scanner works by passing a beam of light across the original page or artwork and sensing the reflected light; it then assembles this information into a data file that describes the images as rows of tiny dots, each one noted for its colour and brightness. That file is then passed on to the computer.

Several devices are used to get the output from the computer. Monitors, which look like television sets, quickly display and redisplay the computer's output. They are often called VDUs (video display units), VDTs (video display terminals), or simply screens. The image displayed on the screen is composed of many rows of tiny dots, called pixels (short for picture element). The number and size of pixels determine the resolution (sharpness and clarity) of the display. The more pixels, the higher the resolution.

There are different types of display screens. The most common type is the LCD (liquid crystal display) monitor. It takes up little space and uses the same technology as that used for screens or notebooks. The CRT (cathode ray tube), is rather like a conventional TV. They can be monochrome or colour. Monochrome monitors show one colour, generally white, green, or amber, on a dark background. Colour monitors (often called graphics monitors) display text characters and graphic images in colour.

Speakers and headphones allow the user to hear audio data, such as speech or music, through the computer.

Printers create paper copies, called hardcopies, of information sent from the computer. Printers for personal computers are connected to the computer by a cable through a port—the location through which the computer exchanges information with an external device. A port has a physical connector and an address, so that programs know where to send information. The two basic types of ports are serial and parallel.

POST-READING ACTIVITY***Task 1. Answer the following questions.***

1. What peripheral devices can be attached to the host computer? 2. What are the functions of input devices such as a keyboard, a scanner, a mouse and a light pen? 3. What do you know about such output devices as monitors? 4. What kind of printers do you know? 5. What is a keyboard designed for? 6. Can you explain the difference between CRT and LCD? 7. What are speakers and headphones used for? 8. What is a printer? 9. How are printers connected to the computer?

Task 2. Match the terms in Table A with the definitions in Table B.

Table A

Table B

1. barcode reader	a) a piece of equipment that is connected to the central processing unit of a computer system.
2. peripheral	b) a measure of the quality of a display screen in terms of the amount of graphical information that can be shown on the screen
3. resolution	c) a symbol on the monitor screen that indicates the point on the screen that is being used
4. cursor	d) an optical input device that uses the reflection of a light beam to read barcode labels
5. keyboard	e) a common cursor control input device used with a graphical user interface. It commonly has 2 or 3 button switches on top and a ball underneath that is rolled on a flat surface
6. mouse	f) the main electronic input device that has keys arranged in a similar layout to a typewriter

Task 3. Complete the gaps.

1. The image displayed on the screen is composed of many rows of tiny dots, called
2. Printers create paper copies, called ... , of information sent from the computer.
3. Monitors are often called VDUs (video display units), VDTs (video display terminals), or simply
4. Peripheral devices can be classified generally as
5. The quality of images on the screen is measured in terms of
6. A mouse is an input device that operates by controlling the position of the

UNIT 3. PERIPHERALS. FUTURE FORMS.

Task 4. Fill in the blanks with the words from the box.

printers, software, capacity, drive, pixels, scanner, peripherals, barcode, removable

1. Digital cameras can be attached to a computer to directly transfer pictures for editing using special ... and unwanted pictures can be deleted. 2. The resolution of a camera is measured in ... and given as two numbers. 3. Other factors that vary between storage devices include: the speed at which the ... moves the media past the read/write head and reads or writes data to the storage media and the ... of the media. 4. There are various types of ... for out-putting text and graphics to paper. 5. Data can take many forms and there is a wide variety of input, output, storage and communication 6. ... is an input device that acts like a miniature photocopy machine connected to a computer, copying graphic images into the computer and allowing type- written pages to be entered without retyping. 7. ... reader is used for looking up prices. 8. ... storage enables the user to change the media and transfer it to another computer.

Task 5. These sentences contain typical mistakes. Correct them.

1. A mouse is a device which connected to the computer.
2. These are three main types of a peripherals.
3. Input devices refers to the computer components.
4. Data is processing by the CPU.
5. Printer is peripheral which produces a hard copy.
6. They make our interactions with computers easier.
7. These devices can describe as hard disks.

SPECIALIST READING

Task 6. Read and translate the following text:

TEXT B. TYPES OF PRINTERS

Printing information on paper is still the most common form of output. It is frequently required for legal documentation. Thus, computers can produce reports, correspondence, sales invoices, payroll checks, bank statements and others. A printer is a peripheral device with small liquid crystal display which produces a hard copy of documents stored in electronic form. Many printers are primarily used as local peripherals and are attached to a computer by USB cable. Some printers, commonly known as network printers, have built-in network interface (wireless or Ethernet) and can serve as a hardcopy device for any user on the network. Individual printers are often designed to support both local and network connected users simultaneously. Some printers combined with scanners and fax machines in a single unit can function as photocopiers. Printers that include non-printing features are sometimes called Multifunction Printers (MFP), Multifunction Devices (MFD) or All-In-One (AIO) printers. Most MFPs include such features as printing, scanning and copying.

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The choice of print engine has a substantial effect on what jobs a printer is suitable for because different technologies have different levels of image/text quality, print speed and noise. In addition, some technologies are inappropriate for certain types of physical media such as carbon paper or transparencies.

Printers can be classified by the print technology they employ. The term dot-matrix printer is applied to impact printers that use a matrix of small pins to create precise dots. The advantage of dot-matrix over other impact printers is that they can produce graphical images in addition to the text. Dot-matrix printers were one of the most common types of printers applied for general use (for home and small office). Such printers would have either 9 or 24 pins on the print head.

Ink-jet printers spray very small droplets of ink which have electrical charge onto the paper. The placement of the ink is determined by the charge of a cathode and electrode between which the ink moves. Solid ink is a technology used in computer printers and multifunction devices originally created by Tektronix in 1986. Solid ink-jet printers are the most commonly used as colour office printers. Drawbacks of this technology include high power consumption and long warm-up time. The most famous manufacturers of ink-jet printers are Canon, Hewlett-Packard, Epson and Lexmark.

Laser printers use an electrostatic process similar to a photocopying machine to produce many pages per minute of high-quality black-and-white output. Laser printers are very fast and can use different sizes of paper. Since they are non-impact printers they are very quiet and produce good graphics. The laser printer works by beaming a laser onto an electrically charged drum which creates an invisible image on the drum, revealed when a special substance, called toner, is poured over it. When the paper is brought into contact with the drum, the image melts onto the paper as it is heated. Laser printers have many significant advantages over other types of printers. Unlike impact printers, the speed of laser printers can vary and depend on many factors, including the graphics intensity. The fastest monochrome laser printers can produce over 200 pages per minute (ppm) while the colour ones can print over 100 ppm.

A plotter is a vector graphics printing device used to print graphical plots. There are two types of plotters: pen and electrostatic plotters. Pen plotters print by moving a pen across the surface of paper to draw complex line art and text. When computer memory was very expensive and processor power was very low, it was the fastest way of producing colour high-resolution vector-based artwork or very large drawings efficiently.

Thermal printers produce printed images by heating paper selectively when it passes over the thermal print head. The coating becomes black in the areas where it is heated. Two-colour thermal printers are capable of printing both black and an additional colour (often red), by applying heat at two different temperatures.

Inkless printers use paper with colourless dye crystals embedded between the two external layers of the paper. When the printer is turned on, the heat of the drum causes the crystals to colorize at different rates and become visible. The inkless printing technology, Zink, originally developed at Polaroid, became available in 2007. Because of the way it prints, the printer can be as small as a business card and the produced images are waterproof. Nowadays, Xerox works on an inkless printer which uses a special reusable paper but this technology is still in development.

A dye-sublimation printer (or dye-sub printer) employs the process of dye transferring to media, such as a plastic card, paper or canvas. These printers are primarily intended for high-quality colour applications, including colour photos, and they are less suited for text. This type of printers is now increasingly used as a dedicated consumer photo printer.

UNIT 3. PERIPHERALS. FUTURE FORMS.

Task 7. Answer the following questions:

1. What types of printers are mentioned in the text?
2. What advantages do the multifunction printers have?
3. What is the distinguishing feature of a thermal printer?
4. What is the productivity of the monochrome laser printers?
5. What is the key difference between ink-jet and laser printers?
6. What are the basic features of plotters?
7. Which printer is the fastest one according to the text?
8. What areas of our lives can printers be used in?

Task 8. Agree or disagree with the following statements:

1. Individual printers are often designed to support only local users.
2. A dot-matrix printer is used for non-impact printing.
3. Solid ink-jet printers are used as colour home printers.
4. Inkless printers can be as small as a business card.
5. Laser printers are a common type of computer printers.

Task 9. Give the English equivalents to the following Ukrainian word-combinations:

найбільш загальна форма; найшвидший спосіб; називають (відомі як); термографічний принтер; спеціальна речовина; велике споживання енергії; які мають електричний заряд; різного формату; під'єднується до комп'ютера за допомогою; додатковий колір; технологія друку; інтенсивність роботи; висока роздільна здатність; захищений від вологи; креслення.

Task 10. Fill in the missing words in the text and translate it:

form, employs, laser, adapted, data, advanced, letter-quality, impact, ink-jet, written, dot-matrix, characters, output.

A printer is a computer 1. ____ device that displays information on paper. The information can be in the form of 2. ____ script, numerical 3. ____ or graphics. Printers can produce 4. ____ print, like a typewriter. There are two main types of printers: 5. ____ printers and 6. ____ printers. Dot-matrix printer 7. ____ a matrix of small pegs that, hit from behind, 8. ____ a series of dots on paper. The dot-matrix printer can 9. ____ a wide variety of 10. ____ as well as graphics. Ink-jet printers can be 11. ____ to complex colour printing. The more 12. ____ type of printers is the 13. ____ printer which is capable of both black and white and colour printing.

UNIT 3. PERIPHERALS. FUTURE FORMS.

Task 11. Match each term with its proper definition:

- | | |
|-----------------------|--|
| 1.printer | a) a method of doing something that needs skill |
| 2.memory | b) a symbol available on the keyboard |
| 3.output | c) a machine that can be programmed to process data in a variety of ways |
| 4.technique | d) a printer that prints by hammering pins onto an inked ribbon |
| 5.ink-jet printer | e) a method of doing something or dealing with the problem |
| 6.laser printer | f) a common output device used for printing the output of a computer on paper |
| 7.character | g) a printer that prints using toner powder and laser light |
| 8.computer | h) the processed data or signals that come out of a computer system |
| 9.way | i) the electronic part of a computer system used for storing programs and data |
| 10.dot-matrix printer | j) a printer that generates an image by spraying droplets of ink at the paper |

Task 12. What do the following abbreviations stand for?

MFP, MFD, AIO, PC, USB, ppm, LCD.

GRAMMAR REVIEW

FUTURE FORMS

	Future Simple	Future Continuous	Future Perfect	Future Perfect Continuous
When	tomorrow, next week, in a week	at 5 p.m., at noon, from 2 p.m. to 4 p.m. all day long when I come back	by 5 o'clock, by Friday, by the end of the year	for two hours, for three months, when you come back, by the 1 st of June
Affirmative sentence	I/you/she/he/it/we/they will play	I/you/she/he/it/we/they will be playing	I/you/she/he/it/we/they will have played/written	I/you/she/he/it/we/they will have been playing/writing
Negative sentence	I/you/she/he/it/we/they will not (won't) play	I/you/she/he/it/we/they will not be (won't be) playing	I/you/she/he/it/we/they will not (won't) have played/written	I/you/she/he/it/we/they will not (won't) have been playing / writing
General question	Will I/you/she/he/it/we/they play?	Will I/you/she/he/it/we/they be playing?	Will I/you/she/he/it/we/they have played/written?	Will I/you/she/he/it/we/they have been playing/writing?
Wh-question	What will I/you/she/he/it/we/they play?	What will I/you/she/he/it/we/they be playing?	What will I/you/she/he/it/we/they have played/written?	What will I/you/she/he/it/we/they have been playing/writing?

UNIT 3. PERIPHERALS. FUTURE FORMS.

Present Continuous		
<i>this week at the weekend on Monday</i>	fixed arrangements (plans) in the near future (definite time)	She is seeing her dentist this week
Present Simple		
<i>at 10.45 at 5 am</i>	timetables	The train leaves at 3 o'clock
Going to		
<i>in one year, next week, tomorrow, soon, the day after tomorrow</i>	1. actions intended to be performed in the near future (I've already decided to do it)	I am going to visit my parents on Saturday.
	2. predictions about events when there is an concrete evidence that something is going to happen, -the situation makes it clear	The sky is absolutely dark. It is going to rain.
	! Note: 'Will' is used instead of ' going to ' when a formal style is required, particularly in the written language	The wedding will take place on May 8th. The ceremony will begin at 4 pm, followed by a meal and a big party.
Future Simple		
<i>tomorrow, today, later today, in five minutes, in two hours, in a year, on Monday, on Saturday afternoon, next ..., week/month, this year, soon, I think, I don't think, probably, perhaps, I expect, I am sure, I wonder, I believe, After hope we usually use</i>	1. actions or predictions which may (not) happen in the future / predictions based on opinions, beliefs, intuition, knowledge, experience with words and expressions such as: probably, possibly, perhaps, (I'm) sure, (I) expect, (I) wonder I'm afraid, I think	I am afraid somebody will steal my new car. He will probably come back tomorrow. I think, Sara will like the present you bought her. I predict that Congress will pass an anti-piracy law soon. I don't think he'll come tonight.
	2. actions which we cannot control and will inevitably happen	Summer will be here soon
	3. on-the-spot, spontaneous decisions	Oh, I've left the door open. I'll go and shut it. Did you phone Lucy? – Oh, no! I forgot. I'll phone her now.
	4. request	Will you please help me to do my homework? Will you please turn the stereo down, I'm trying to concentrate.
	5. promise	Thanks for lending me the money. I'll pay you back on Friday.
	6. threat	I'll tell your parents what you did. "I'll be back."

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present (will is also possible)	7. refuse	I've tried to give her advice but she won't listen .
	8. warning	Don't be so noisy! Your Dad will get angry .
	9. when the main verb is be even if we talk about planned events	I'll be in Athens tomorrow. I'll be at a conference next week.
Future Continuous		
<i>in one year, next week, tomorrow at 6</i>	1. an activity that will occur in the future and continue for a certain period of time . We can specify the time when the activity is going to take place	Tom will be attending the conference next month. They'll be shopping all afternoon. I'll be working late at the office tonight. We'll be flying over the Atlantic Ocean for three hours. Tonight at 11 p.m. we will be dancing at the party.
	2. actions that will be happening at a particular time in the future	Please, don't come at 9 o'clock. She'll be sleeping at that time.
	3. things that we expect to happen in the usual course of events (the event is certain and will happen naturally)	I will be seeing Ann tomorrow at the office. (we work together) We will be meeting Mike at the festival this weekend.
	4. in polite enquiries, when we wish to know what somebody's plans are (often followed by a request)	Will you be coming with me to the concert tonight? Will you be going to the post office today? Can you buy me an envelope?
	!Note: We never use future forms in time and conditional clauses after: as long as, after, before, by the time, till/until, when(time conjunction), if(conditional), unless, in case, whenever, while, once, provided that (providing), suppose,/supposing, on condition that	Let's buy more food in case James comes.(not: in case James will come). If he has finished his project by tomorrow, I will be surprised.
	"If" meaning 'whether' especially after I don't know, I doubt, I wonder etc. and when used as a question word – can be used with future forms	I doubt if they will hold their annual anniversary party this year.
Future Perfect		
<i>by the time, by next week, by then, by next year, by the year 2020</i>	1. to express an action that will be completed in the future (usually before another action or event in the future)	I will have accomplished the task by the time my colleague returns. She will have cooked dinner by the time her husband repairs the car. Tina will have washed the dishes. By the time you arrive, my foreign guests will have left . He will have written his report. By the time we get to the cinema the movie will have started .

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	2. actions that will be completed before (by) a specific time in the future or before another action in the future	The student will have passed his exam by Friday. I will have finished the writing by midnight. By next January I will have lived here for 10 years. By 10 o'clock I will have finished the translation. By the end of the month we will have finished the course. They will have known each other for eight years this June.
Future Perfect Continuous	duration of an action up to a certain time in the future	By the end of the year I will have been working on this book for a year.

“Shall” is rarely used to indicate future action in modern English. It is commonly used in sentences with “I” or “we” and is often found **in suggestions** such as “Shall we go?”

Shall is alive and well when it comes to questions posed in the first person (i.e., with *I* and *we*). For example:

- *What shall we talk about?*
- *Shall I open the window?*

It is interesting to know:

In many requirement specifications, particularly involving software, the words *shall* and *will* have special meanings. Most requirement specifications use the word *shall* to denote something that is required, while reserving the *will* for simple statement about the future (especially since "going to" is typically seen as too informal for legal contexts). However, some documents deviate from this convention and use the words *shall*, *will*, and *should* to denote the strength of the requirement. Some requirement specifications will define the terms at the beginning of the document.

Shall and will are distinguished by NASA and Wikiversity as follows:

- *Shall* is usually used to state a device or system's requirements. For example: "The selected generator shall provide a minimum of 80 Kilowatts."
- *Will* is generally used to state a device or system's purpose. For example, "The new generator will be used to power the operations tent."

On standards published by International Organization for Standardization (ISO), IEC (International Electrotechnical Commission), ASTM (American Society for Testing and Materials), IEEE (Institute of Electrical and Electronics Engineers), requirements with "shall" are the mandatory requirements, meaning, "must", or "have to". The IETF (Internet Engineering Task Force) defines *shall* and *must* as synonymous terms denoting absolute requirements, and *should* as denoting a somewhat flexible requirement.

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<p>A clause is a grammatical structure which has a subject and a verb. A "time clause" begins with such words as <i>when, before, after, as soon as, until</i>. These words may be followed by a subject and verb: <i>When he comes, we will see him. When + subject + verb = time clause</i></p> <p>A future tense is <i>not</i> used in a time clause. The meaning of the clause is future, but the simple present tense is used.</p>	<p>Bob will come soon. <i>When Bob comes</i>, we will see him.</p> <p>Linda will leave soon. <i>Before she leaves</i>, she is going to finish her work.</p> <p>I will get home at 5:30. <i>After I get home</i>, I will eat dinner.</p> <p>The taxi will arrive in less than five minutes. <i>As soon as the taxi arrives</i>, we will be able to leave for the airport.</p> <p>They are going to come soon. I will wait here <i>until they come</i>.</p>
<p>Occasionally, the present perfect is used in a time clause. The present perfect stresses the completion of the act in the time clause before the other act occurs in the future.</p>	<p>I will go to bed <i>after I finish</i> my work.</p> <p>I will go to bed <i>after I have finished</i> my work.</p>

GRAMMAR EXERCISES

Exercise 1. Use the words in brackets to write sentences. All the sentences are future. Use the Present Continuous or the Present Simple.

- (I / not / go out / tonight) I'm not going out tonight.
- (the concert / start / at 8.15) The concert starts at 8.15.
- (I / meet / my friends this evening) _____
- (Tom / not come / to the party on Thursday) _____
- (The English course / finish / on 10 May) _____
- (my sister / get married next December) _____
- (I / not go / to London tomorrow) _____
- (my train / leave / at 8.45) _____
- (what time / the train / leave) _____?
- (what time / you / leave / tomorrow?) _____?
- (when / they / get married?) _____?
- (when / the next English course / begin?) _____?

Exercise 2. Fill in the gaps with the correct form of will or be going to and the verb in brackets.

- A: Why are you buying flour and eggs?
B: Because I'm going to make a cake.
- A: I have decided what to buy Mum for her birthday.
B: Really. What _____ (you/buy) for her?
- A: Did you ask Jackie to the party?
B: Oh no! I forgot! I _____ (ask) her tonight.

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4. A: Could I speak to Jim, please?
B: Wait a minute. I _____ (get) him for you.
5. A: What are your plans for the weekend?
B: I _____ (spend) some time with my friends.
6. A: What are you doing on Friday night?
B: Oh, I _____ (probably/stay) at home with my family.
7. A: Have you tidied your room yet?
B: No, but I promise I _____ (do) it this afternoon.
8. A: Look at that boy!
B: Oh yes! He _____ (climb) the tree.
9. A: Tim is very clever for his age.
B: Yes. He says he _____ (become) a doctor when he grows up.
10. A: I'm too tired to cut the grass.
B: Don't worry! I _____ (cut) it for you.

Exercise 3. Fill in the gaps with the correct form of will or be going to and the verb in brackets.

1. 'We've run out of sugar.'
'Oh, have we? I _____ (go) and get some.'
2. I'm afraid I can't come to dinner on Saturday – I _____ (meet) Tim.
3. It's raining – we _____ (have to) take an umbrella.
4. My cousins _____ (come) to stay with us at the weekend.
5. Look at that car! It's _____ (hit) that tree!
6. I promise I _____ (not do) that again.
7. Did you hear that the company _____ (open) a new factory?
8. You look tired. Sit down and I _____ (make) you a cup of tea.
'I think there's someone at the door.' – 'OK, I _____ (go) and answer it.'
9. I'm sorry you are leaving. I hope you _____ (come back) and see us soon.
10. _____ (you/stay) at home this weekend?
11. Kate's really unhappy at work so she _____ (look for) a new job soon.

Exercise 4. Put the verbs in brackets into the Present Simple or the Future Simple.

1. A: I'm going to the gym tonight.
B: Well, while you _____ (be) there, I will do the shopping.
2. A: _____ (you/call) me when you _____ (get) home?
B: Yes, of course.
3. A: As soon as John _____ (come) in, tell him to come to my office.
B: Certainly, sir.
4. A: Are you going to visit Aunt Mabel this afternoon?
B: Yes, I _____ (visit) her before I _____ (do) the shopping.
5. A: Is George going to have dinner with us?
B: No, by the time he _____ (get) home it _____ (be) very late.

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6. A: When _____ (you/pay) the rent?
B: When I _____ (get) my pay cheque.
7. A: What are your plans for the future?
B: I want to go to university after I _____ (finish) school.
8. A: If you _____ (pay) for dinner, I _____ (pay) for the theatre.
B: Okay, that's a good idea.
9. Before you _____ (leave), don't forget to shut the windows.
10. When you _____ (see) Brian again, you won't recognize him.
11. We _____ (not/start) dinner until Jack _____ (arrive).
12. Please, don't touch anything before the police _____ (come).
13. As soon as I _____ (get up) in the morning, I _____ (buy) the newspaper to look at the employment ads.
14. Before I _____ (go) on an interview, I _____ (improve) my computer skills.
15. I don't know when she _____ (come back).

Exercise 5. Put the verbs in brackets into the Future Simple, the Present Simple or the Present Continuous.

1. A: I am seeing Roger (see) at seven o'clock tonight.
B: Really? I thought he was out of town.
2. A: _____ (you/do) anything on Friday morning?
B: No, I'm free.
3. A: I _____ (go) to the cinema. There's a new film on. Do you want to come with me?
B: What time _____ (the film/start)?
4. A: Helen _____ (have) a party the day after tomorrow _____ (you/go)?
B: As a matter of fact, I haven't been invited.
5. A: The new exhibition _____ (open) on April 3rd and _____ (finish) on May 31st.
B: I know. I _____ (go) on the first day.
6. A: Aunt Maggie _____ (come) to visit us tomorrow.
B: I know. What time _____ (she/arrive)?
7. A: Excuse me, what time _____ (the train/leave)?
B: At half past three, madam.
8. A: Jim Lucky _____ (give) a concert at the Olympic Stadium next week.
B: I know. I _____ (want) to get a ticket.
9. A: I'm really thirsty.
B: I _____ (get) you a glass of water.
10. A: Are you looking forward to your party?
B: Yes. I hope everyone _____ (enjoy) it.
11. A: How old is your sister?
B: She _____ (be) twelve next month.
12. A: What are you doing tonight?
B: I _____ (probably/watch) TV after dinner.
13. A: How do you feel about your exams?
B: I'm afraid I _____ (not/pass) them.

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14. A: What would you like to drink?

B: I _____ (have) a lemonade, please.

15. Mr. Cliff Turner is a businessman. His schedule is very tough. He _____ (fly) to Montreal on Wednesday. And on Thursday he _____ (give) an interview to The Financial Times.

Exercise 6. Put the verbs in brackets into the Future Simple or the Future Continuous.

1. – Shall we go to the beach tomorrow?

– Well, I'm working in the morning, but I _____ (phone) you when I finish.

– Shall I ask Ben and Linda to come with us?

– Yes. I _____ (see) Linda at work in the morning, so I _____ (ask) her then.

– If they want to come, I _____ (pick) you up from work and we can all go together.

– Great! Just think, we _____ (swim) in the sea this time tomorrow. I can't wait!

2. Tomorrow afternoon I'm going to play tennis from 3:00 to 4:30. So at 4:00 tomorrow I _____ (play) tennis.

3. Jim is going to study from 7:00 until 10:00 this evening. So at 8:30 this evening he _____ (study).

4. We are going to clean the apartment tomorrow. It will take from 9 until 11 o'clock. So at 10 o'clock tomorrow morning we _____ (clean) the apartment.

5. You want your friend to give Jean a message this afternoon.

YOU: _____ you _____ (see) Jean this afternoon?

6. You want to use your friend's computer tomorrow evening.

YOU: _____ you _____ (use) your computer tomorrow evening?

7. Your friend is going shopping. You want him/her to buy some stamps for you at the post office.

YOU: _____ you _____ (pass) the post office while you're downtown?

8. I _____ (not be able) to lend you the car – I _____ (use) it all night.

9. Next year they _____ (live) in Spain.

10. This time next week we _____ (sit) on the beach.

11. When they come round for dinner tomorrow evening, I _____ (show) them the photographs.

12. We _____ (not hear) from him for some time – he _____ (be) in Panama.

13. I _____ (see) them tomorrow – I _____ (tell) them what you said.

14. _____ (you work) all tomorrow evening?

15. She _____ (visit) our office next week – I _____ (ask) her then.

Exercise 7. Put the verbs in brackets into the Future Continuous or the Future Simple.

1. It's nearly autumn, soon the leaves _____ (change) colour.

2. At four o'clock on Tuesday afternoon we _____ (fly) over Paris.

3. Don't phone them now: they _____ (have) dinner.

4. I don't like that man and I _____ (not help) him.

5. I _____ (work) at home tomorrow. You can call me there.

6. She _____ (stay) in Leeds all weekend.

7. Your face is dirty. – All right. I _____ (wash) it.

8. What you _____ (do) early on Monday night?

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9. Will you have lunch with me on the 24th? – I'd love to, but I'm afraid I _____ (do) my exam then.
10. Let's hurry up! It _____ (start) raining in a minute.
11. It's five o'clock and my girlfriend is waiting for me outside. I'm afraid she _____ (not wait) long.
12. You _____ (travel) in summer again? – Yes, we _____ (go) to Croatia.
13. During the performance the police _____ (try) to keep order.

Exercise 8. Put the verbs in brackets into the Future Perfect or the Future Perfect Continuous.

1. By 3 o'clock, she will have been studying (study) for six hours.
2. By the end of next month, Sam _____ (finish) the project.
3. He _____ (not/start) painting the kitchen before Tuesday.
4. By the time she arrives in Paris, she _____ (travel) for four hours.
5. I hope I _____ (buy) my own house by the time I'm thirty-five.
6. By Saturday, Lisa _____ (diet) for two weeks.
7. Hopefully they _____ (learn) everything by the time they sit the exam.
8. By four o'clock, I _____ (sit) in the hairdresser's for three hours.
9. By Christmas, I _____ (work) for this company for eighteen months.
10. By next weekend, Brian _____ (move) house.

Exercise 9. Put the verbs in brackets into the Future Perfect or the Future Continuous.

1. I can't come shopping on Saturday morning because I _____ (work).
2. Don't phone me later than midnight because I _____ (sleep) then.
3. Come to my house at six o'clock.
– _____ (you/finish) your homework by then?
4. Have you made the preparations for the party?
– Not yet, but I _____ (finish) them by this evening.
5. _____ (you/go) to James' party on Saturday night?
6. – There's a meeting tomorrow at 4 o'clock.
– I can't go if it is that late. I _____ (leave) by then.

Exercise 10. Put the verbs in brackets into the Future Perfect or the Futures Simple.

1. By next June he _____ (write) his second novel.
2. He _____ (finish) this work before you _____ (leave).
3. By the end of the summer she _____ (teach) us to speak Italian.
4. The meeting _____ (finish) by the time we _____ (get) there.
5. I _____ (do) my homework tomorrow.
6. By next week he _____ (sell) all his furniture.
7. I hope it _____ (stop) raining by 5 o'clock.
8. The builder says he _____ (finish) the roof by Saturday.

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9. The car _____ (do) 100,000 miles soon.
10. They _____ (build) the road by the end of the year.

Exercise 11. Put the verbs in brackets into the Future Continuous or the Future Perfect.

1. Don't phone between 7 and 8. _____ (we/have) dinner then.
2. Phone me after 8 o'clock. _____ (we/finish) dinner by then.
3. Tomorrow afternoon we're going to play tennis from 3 o'clock until 4.30. So, at 4 o'clock _____ (we/play) tennis.
4. Ben is on holiday and he is spending his money very quickly. If he continues like this, _____ (he/spend) all his money before the end of his holiday.
5. Do you think _____ (you / still / do) the same job in ten years' time?
6. Laura is from New Zealand. She is travelling around Europe at the moment. So far she has traveled about 1,000 miles. By the end of the trip, _____ (she/travel) more than 3,000 miles.
7. If you need to contact me, _____ (I/stay) at the Lion Hotel until Friday.
8. A: _____ (you/see) Laura tomorrow?
B: Yes, probably. Why?
A: I borrowed this CD from her. Can you give it back to her?

Exercise 12. Put the verbs in brackets into one of the future forms.

1. This time next month I _____ (bathe) in the Baltic sea.
2. By the 8th of April my mother _____ (work) at school for twenty years.
3. I'm tired. I think, I _____ (go) to bed.
4. I _____ (work) in the library all day tomorrow.
5. At four o'clock on Tuesday afternoon we _____ (fly) over Paris.
6. They _____ (be) free in some minutes.
7. This time next week they _____ (go) to the Crimea by train.
8. She _____ (change) her books in the library tomorrow.
9. They _____ (build) the road by the end of the year.
10. Ring me up at 4 o'clock. I _____ (have) dinner by this time and we _____ (go) to the concert.
11. It's too late to telephone Tom now.
– OK. We _____ (telephone) him in the morning.
12. When you come in the evening we _____ (pack) our things.
13. I promise, I _____ (meet) you at the station.
14. – We'll come at 5 o'clock.
– OK, I _____ (wait) for you.
15. It _____ (stop) raining soon.
16. Susan _____ (type) from 6 o'clock until 8 o'clock this evening.
17. Young Billy is growing up. By this time next year he _____ (begin) school.
18. Don't phone me tomorrow morning. I _____ (work) on my report.

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19. We _____ (fly) for twelve hours by the time the plane lands.
20. By this summer we _____ (read) all the stories in the book.

Exercise 13. Put the verbs in brackets into the correct future tense.

1. My grandmother is very old. She _____ (be) ninety next month.
2. I'm afraid I _____ (fail) my exams this year.
3. This time next week, they _____ (lie) on a sandy beach.
4. The team _____ (leave) the office by 9 o'clock tomorrow.
5. By 10 o'clock Sue _____ (drive) for twelve hours.
6. Jenny _____ (see) Paul at work, so she can give him the letter.
7. The film _____ (start) by the time they get to the cinema.
8. Tom expects he _____ (get) a pay rise soon.
9. By six o'clock the secretary _____ (type) for three hours.
10. I hope I _____ (buy) my own car by the time I'm thirty.
11. By next week, they _____ (live) in this town for two years.
12. I _____ (help) you carry your shopping.
13. Martin _____ (do) the work by Sunday evening.
14. Mother _____ (go) to the supermarket tonight. She has already made her shopping list.
15. The play _____ (start) at six o'clock.

Exercise 14. Correct the mistakes.

1. This time tomorrow, John is lying on the beach.
2. Peter will help you when he will have finished his dinner.
3. Shall you do the shopping for me, please?
4. Sarah will finish decorating the Christmas tree by midnight.
5. Where do you spend your holidays this summer?
6. I was turning on the heating. It's cold in here.
7. The film has started at half past six.
8. Stop that noise or I'm going to take your toy away.
9. Moira can type these reports as soon as she will come back from her lunch break.
10. Perhaps the Jacksons have visited us tonight.
11. By the end of the year, Mrs. Evans will be teaching for thirty years.
12. Jennifer will move to her new flat on Saturday. She has already arranged it.

Exercise 15. Look at the example and complete the sentences. Pay attention to time and conditional clauses introduced by if, when, as soon as, before, until.

Example: I 'll phone (phone) them when I get (get) to Paris.

1. We _____ (wait) here until the rain _____ (stop).
2. As soon as the match _____ (end) we _____ (complain) to the referee.

UNIT 3. PERIPHERALS. FUTURE FORMS.

3. I _____ (stay) with you until your train _____ (leave).
4. She _____ (worry) about her exam until she _____ (get) the results.
5. As soon as Dad _____ (get) in tonight he _____ (want) his dinner.
6. We _____ (not start) lunch until you _____ (get) back.
7. When Peter _____ (arrive) we _____ (give) him his presents.
8. When the exam _____ (be) over we _____ (have) a party.
9. I _____ (have) an ice-cream before the film _____ (start).
10. I _____ (finish) this book before I _____ (go) to bed.
11. As soon as I _____ (return) from school, I _____ (ring) you up.

Exercise 16. Translate.

1. Я думаю, що в твоєму диктанті не буде багато помилок.
2. Заняття закінчатся до 2-х годин?
3. Коли ми прийдемо додому, вона буде готувати вечерю вже 1.5 години.
4. Як тільки мій ноутбук полагодять, я встановлю нове антивірусне ПЗ.
5. Скільки часу в тебе піде на дорогу?
6. Я впевнений, що успішно здам іспит.
7. Я повернуся додому до п'ятої.
8. Ви скоро забудете про ці неприємності.
9. Завтра в цей час я буду писати курсову з комп'ютерної графіки.
10. Ми вже підемо до того часу, коли ти подзвониш.
11. Будьте обережні, коли будете користуватися цими приладами.
12. У наступному семестрі у нас будуть заняття з англійської два рази на тиждень.
13. Завтра о третій він буде слухати свою улюблену поп-музику.
14. Ви закінчите роботу до п'ятої години, чи не так?
15. Що ти збираєшся робити, коли витратиш всі ці гроші?

WRITING

Discussion Questions

Tasks:

1. What peripherals are attached to your computer? Make a list of them and describe their functions.
2. In some novelty stores you can find peripherals such as drink coolers, fans, and toy missile launchers. Are these peripherals good ideas? Why or why not? If you could create your own peripheral device, what would it be?

UNIT 4
PERSONAL COMPUTERS

Vocabulary Bank Unit 4

Task 1. Read, write the translation and learn the basic vocabulary terms:

- | | |
|--|-------------------------------|
| 1. accountant | 27. output media |
| 2. accounting | 28. personal computers |
| 3. appliance | 29. raw data |
| 4. artificial intelligence | 30. record keeping |
| 5. ATM | 31. relevance |
| 6. cleanse data | 32. scheduling |
| 7. cluster | 33. security |
| 8. computer of choice | 34. sequence |
| 9. computer-assisted instructions | 35. smart card |
| 10. data mining | 36. soft-copy output |
| 11. decision tree | 37. stand-alone |
| 12. erroneous | 38. stock market forecasting |
| 13. fraud | 39. telephone dialling |
| 14. general -purpose | 40. to remove |
| 15. grading | 41. to delete |
| 16. hard-copy output | 42. to ensure |
| 17. IBM (International Business Machine) | 43. to enter the fray |
| 18. income tax | 44. to fall by the wayside |
| 19. input media | 45. to meet the demands |
| 20. insurance claim | 46. to move paragraphs around |
| 21. irrelevant | 47. to plug in |
| 22. leisure activities | 48. to survive onslaught |
| 23. life-threatening | 49. validity |
| 24. maintenance | 50. warehouse |
| 25. offline storage | 51. word size |
| 26. online storage | 52. worksheet |

TEXT 4A. PERSONAL COMPUTERS

Personal computers are supposed to appear in the late 1970s. One of the first and most popular personal computers was the Apple II, introduced in 1977 by Apple Computer. During the late 1970s and early 1980s, new models and competitive operating systems seemed to appear daily. Then in 1981 IBM entered the fray with its first personal computer, known as the IBM PC. The IBM PC quickly became the personal computer of choice, and most other personal computer manufacturers fell by the way-side. One of the few companies to survive IBM's onslaught was Apple Computer, which is sure to remain a major player in the personal computer marketplace. In less than a decade the microcomputer has been transformed from a calculator and hobbyist's toy into a personal computer for almost everyone.

What is a personal computer? How can this device be characterized?

First, a personal computer being microprocessor-based, its central processing unit, called a microprocessor unit, or MPU, is concentrated on a single silicon chip.

Second, a PC has a memory and word size that is smaller than those of minicomputers and large computers. Typical word sizes are 8 or 16 bits, and main memories range in size from 16 K to 512 K.

Third, a personal computer uses smaller, less expensive and less powerful input, output and storage components than do large computer systems. Most often, input is by means of a keyboard, soft-copy output being displayed on a cathode-ray tube screen. Hard-copy output is produced on a low-speed character printer.

A PC employs floppy disks as the principal online and offline storage devices and also as input and output media.

Finally, a PC is a general-purpose, stand-alone system that can begin to work when plugged in and be moved from place to place.

Probably the most distinguishing feature of a personal computer is that it is used by an individual, usually in an interactive mode. Regardless of the purpose for which it is used, either for leisure activities in the home or for business applications in the office, we can consider it to be a personal computer.

Personal computers have a lot of applications, however, there are some major categories of applications: home and hobby, word processing, professional, educational, small business and engineering and scientific.

Personal computers enjoy great popularity among experimenters and hobbyists. They are an exciting hobby. All hobbyists need not be engineers or programmers. There are many games that use the full capabilities of a computer to provide many hours of exciting leisure-time adventure.

The list of other home and hobby applications of PCs is almost endless, including: checking account management, budgeting, personal finance, planning, investment analyses, telephone answering and dialling, home security, home environment and climate control, appliance control, calendar management, maintenance of address and mailing lists and what not.

At home or at work, applications software, called a word processing program, enables you to correct or modify any document in any manner you wish before printing it. Using the CRT monitor as a display screen, you are able to view what you have typed to correct mistakes in spelling or grammar, add or delete sentences, move paragraphs around, and replace words. The category of professional includes persons making extensive use of word processing, whose occupations are particularly suited to the desktop use of PCs. Examples of other occupations are accountants, financial advisors, stock brokers, tax consultants, lawyers, architects, engineers, educators and all levels of managers.

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Applications programs that are popular with persons in these occupations include accounting, income tax preparation, statistical analysis, graphics, stock market forecasting and computer modelling. The electronic worksheet is, by far, the computer modelling program most widely used by professionals. It can be used for scheduling, planning, and the examination of "what if" situations.

Personal computers are having and will continue to have a profound influence upon the classroom, affecting both the learner and the teacher. Microcomputers are making their way into classrooms to an ever-increasing extent, giving impetus to the design of programmed learning materials that can meet the demands of a student and a teacher.

Two important types of uses for personal computers in education are computer-managed instruction (CMI), and computer-assisted instruction (CAI). CMI software is used to assist the instructor in the management of all classroom-related activities, such as record keeping, work assignments, testing, and grading. Applications of CAI include mathematics, reading, typing, computer literacy, programming languages, and simulations of real-world situations

Task 2. Answer the following questions.

1. When did the first personal computer appear? 2. What was one of the first PC models? 3. What is a personal computer? 4. What are four main characteristics of a PC? 5. What does the term "microprocessor-based" mean? 6. What are the typical word sizes of a PC? 7. How is input carried out in personal computers? 8. What principle storage devices do PCs use? 9. What kind of system is a PC? 10. What differs personal computers from large computer systems? 11. What are the main spheres of PC applications? 12. Do you enjoy computer games? 13. Is it necessary for a person to be an analyst or a programmer to play computer games? 14. What other home and hobby applications, except computer games, can you name? 15. What is "a word processing program"? 16. What possibilities can it give you? 17. Can you correct mistakes while typing any material and how? 18. What other changes in the typed text can you make using a display? 19. Which professions are in great need of computers? 20. How can computers be used in education?

Task 3. Find the English equivalents for the following Ukrainian word combinations.

Конкуруюча операційна система; з'являтися щодня; вплутатися в бійку; кращий комп'ютер; залишитися осторонь; витримати конкуренцію; головний постачальник на комп'ютерному ринку; мікропроцесорний; цільний кристал (мікросхема) з кремнію; довжина слова; компоненти меншої потужності; за допомогою; вивести на екран; низькошвидкісний принтер з посимвольним друком; використовувати гнучкі диски; прилади (не)автономного зберігання даних; універсальний; автономна система; відмінна риса; інтерактивний режим; незалежно від мети; багато областей застосування; тим не менше; обробка текстів; користуватися популярністю; аматори; здатності комп'ютера; нескінченний перелік; аналіз інвестицій; набір номера телефону; автовідповідач; ведення календаря; зберігання адрес і пошти; тощо; прикладні програми; виправляти орфографічні помилки; переставляти абзаци; бухгалтер; біржові брокери; консультант з податків; юристи; працівники освіти; управлінці; бухгалтерський облік; прибутковий податок; комп'ютерне моделювання; електронні таблиці; складання розкладу; чинити величезний вплив; прокладати

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шлях; дати поштовх; задовольняти потреби; навчальна діяльність; комп'ютерна грамотність; моделювання реально-життєвих ситуацій.

Task 4. Find in the Text A words.

a) close to the meaning of the following words:

Verbs: to print; to produce; to convert; to keep; to found; to erase; to name; to change; to use; to start; to switch on; to supply; to give possibility; to involve.

Nouns: rate; analyst; possibilities; use; plays; control; post; mode; profession; consultant; teacher; director; book-keeper; fight; producer; attack; amateur; device; crystal; error; storage; primary (memory); monitor; characteristic; aim.

Adjectives: flexible; thrilling; main; little; general;

b) opposite to the meaning of the following words:

Verbs: to finish; to switch on; to take; to delete.

Nouns: online; input; work.

Adjectives: cheap; weak; common; general; large; soft; high; easy.

Task 5. Find the meaning of the following abbreviations.

PC; PU; CU; ALU; CPU; MPU; IBM; DOS; CRT; ROM; RAM; IC; SSI; MSI; LSI; VLSI; MP; CD; I/O; IOP; CMI; CAL.

Task 6. Translate the sentences below.

1. It is well known that personal computers enjoy great popularity among experimenters and hobbyists. 2. It took years to produce a high-speed computer performing a lot of functions. 3. When making up the summary of the text one should put down the exact title of the article, the author's name and the date of the edition. 4. It is difficult to imagine modern life without a computer. 5. It is quite impossible to listen to your English pronunciation: you make rude mistakes while reading. 6. Concerning these substances one must say that they vary in their composition. 7. When working with these substances one should be very careful. 8. It was once a universal practice to manufacture each of the components separately and then assemble the complete device by wiring the components together with metallic conductors. 9. It was no good: the more components and interactions, the less reliable the system. 10. It should first be made clear what the term "microelectronics" means.

SPECIALIST READING

Task 7. Find the answers to these questions in the following text.

1. What tool is often used in data mining?
2. What AI method is used for the following processes?
 - a. Separate data into subsets and then analyse the subsets to divide them into further subsets for a number of levels.
 - b. Continually analyses and compare data until patterns emerge.
 - c. Divide data into groups based on similar features or limited data ranges.
3. What term is used for the patterns found by neural networks?
4. When are clusters used in data mining?
5. What types of data storage can be used in data mining?
6. What can an analyst do to improve the data mining results?
7. Name some of the ways in which data mining is currently used.

DATA MINING

Data mining is simply filtering through large amounts of raw data for useful information that gives businesses a competitive edge. This information is made up of meaningful patterns and trends that are already in the data but were previously unseen.

The most popular tool used when mining is artificial intelligence (AI). AI technologies try to work the way the human brain works, by making intelligent guesses, learning by example, and using deductive reasoning. Some of the more popular AI methods used in data mining include neural networks, clustering, and decision trees.

Neural networks look at the rules of using data, which are based on the connections found or on a sample set of data. As a result, the software continually analyses value and compares it to the other factors, and it compares these factors repeatedly until it finds patterns emerging. These patterns are known as rules. The software then looks for other patterns based on these rules or sends out an alarm when a trigger value is hit.

Clustering divides data into groups based on similar features or limited data ranges. Clusters are used when data isn't labelled in a way that is favourable to mining. For instance, an insurance company that wants to find instances of fraud wouldn't have its records labelled as fraudulent or not fraudulent. But after analyzing patterns within clusters, the mining software can start to figure out the rules that point to which claims are likely to be false.

Decision trees, like clusters, separate the data into subsets and then analyze the subsets to divide them into further subsets, and so on (for a few more levels).

The final subsets are then small enough that the mining process can find interesting patterns and relationships within the data.

Once the data to be mined is identified, it should be cleansed. Cleansing data frees it from duplicate information and erroneous data. Next, the data should be stored in a uniform format within relevant categories or fields. Mining tools can work with all types of data storage, from large data warehouses to smaller desktop databases to flat files. Data warehouses and data marts are storage

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methods that involve archiving large amounts of data in a way that makes it easy so to access when necessary.

When the process is complete, the mining software generates a report. An analyst goes over the report to see if further work needs to be done, such as refining parameters, using other data analysis tools to examine the data, or even scrapping the data if it's unusable. If no further work is required, the report precedes to the decision makers for appropriate action.

The power of data mining is being used for many purposes, such as analyzing Supreme Court decisions, discovering patterns in health care, pulling stories about competitors from newswires, resolving bottlenecks in production processes, and analyzing sequences in the human genetic makeup. There really is no limit to the type of business or area of study where data mining can be beneficial.

Task 8. Match the terms in Table A with the statements in Table B.

Table A	Table B
a. Data mining	1. Storage method of archiving large amounts of data to make it easy to access.
b. AI	2. Data free from duplicate and erroneous information
c. Cleansed data	3. A process of filtering through large amounts of raw data for useful information.
d. Data warehouse	4. A computing tool that tries to operate in a way similar to the human brain.

Task 9. Mark the following as True or False:

- 1) Data mining is a process of analyzing known patterns in data,
- 2) Artificial intelligence is commonly used in data mining,
- 3) In data mining, patterns found while analyzing data are used for further analyzing the data,
- 4) Data mining is used to detect false insurance claims,
- 5) Data mining is only useful for a limited range of problems.

Task 10. Complete the following description of the data mining process using words from the text:

Large amounts of data stored in data_____ are often used for data_____.The data is first_____to remove_____information and errors. The_____is then analyzed using a tool such as_____.An analysis report is then analyzed by an_____who decides if the_____need to be refined, other data_____tools need to be used, or if the results need to be discarded because they are_____.The analyst passes the final results to the_____makers who decide on the_____action.

GRAMMAR REVIEW.**THE PASSIVE VOICE**

Compare two sentences: We write dictations every week (Active Voice). Dictations are written every week. (Passive Voice).

Passive Voice is used to show what's happening with a human being or thing; **Active Voice** – what a human being or thing is doing.

e.g. 1. Captain Cook discovered Australia in 1770.

subject predicate object

Australia was discovered by Captain Cook in 1770.

2. The teacher asks me every lesson.

subject predicate object

I am asked every lesson by the teacher.

Passive Voice is formed by means of the auxiliary verb 'to be' & Past Participle of the notional verb:
to be + V₃

We use the preposition 'by' to show who performs the action & the preposition 'with' to show the way it is performed.

e.g. Australia was discovered *by* Captain Cook.

The letter was written *with* a pen.

TABLE OF PASSIVE VOICE

	Simple проста, звичайна, регулярна дія	Continuous дія відбувається у певний момент	Perfect завершена дія	Perfect Continuous дія продовжується вже певний час
Present теперішній	am is + V ₃ are	am is being + V ₃ are	have been + V ₃ has	—
Past минулий	was + V ₃ were	was being + V ₃ were	had been + V ₃	—
Future майбутній	will be + V ₃	—	will have been + V ₃	—

1. I like <u>to be invited</u> to the parties.	7. The environment <u>has already been damaged</u> .
2. The environment <u>is damaged</u> by the people.	8. The school <u>had been built</u> by the 1-st of September.
3. The school <u>was built</u> last month.	9. The book <u>will have been read</u> by tomorrow.
4. The meeting <u>will be held</u> tonight.	10. The cathedral <u>can be seen</u> from anywhere in the city.
5. I <u>am being asked</u> at the moment.	11. The poem <u>must be learnt</u> by all means.
6. The film <u>was being shown</u> yesterday at 10.	12. The rules of behaviour <u>should be observed</u> .

ACTIVE and PASSIVE VOICE (compare)**ACTIVE VOICE**

	Present	Past	Future
Simple (always, usually) FACT	+ S+V _{0(s(es))} +... - S+don't (doesn't)+V ₀ +... ? Do (does)+S+V ₀ +...? always, usually, often, seldom, as a rule, regularly, every day	+ S+V _{II(ed)} +... - S+didn't+V ₀ +... ? Did+S+V ₀ +...? Yesterday, ... ago, last (week, month, year), in 1990, the day before yesterday	+ S+will+V ₀ +... - S+won't+V ₀ +... ? Will+S+V ₀ +...? Next..., tomorrow, soon, in 3 days, the day after tomorrow
Continuous (from 3 till 5, still, the whole day) to+be+V_{ing} PROCCES	+ S+am, is, are+V _{ing} - S+ am, is, are not+V _{ing} ? Am, is, are+S+V _{ing} now, at the moment, listen, look, still, at present	+ S+was(were)+V _{ing} - S+ was(were) not+V _{ing} ? Was(were)+S+V _{ing} At 5 o'clock yesterday, from 3 till 5 yesterday, when ... came, while, whole evening	+ S+will+be+V _{ing} - S+won't+be+V _{ing} ? Will+S+be+V _{ing} At 5 o'clock tomorrow, from 5 till 6 tomorrow, whole.
Perfect (by) to have+V_{III(ed)} RESULT	+ S+have(has)+V _{III(ed)} - S+haven't(hasn't)+V _{III(ed)} ? Have(has)+S+V _{III(ed)} Already, ever, never, just, today, since, for, recently, yet, lately, so far, not yet, this (week, month, year)	+ S+had+V _{III(ed)} - S+had not+ V _{III(ed)} ? Had+S+ V _{III(ed)} ? by, інша дія в минулому	+ S+will+have+V _{III(ed)} - S+won't+have+V _{III(ed)} ? Will+S+V _{III(ed)} by, інша дія в майбутньому, by 5 o'clock tomorrow, when he comes
Perfect cont. To have+been+V_{ing}	+ S+have(has)+been+V _{ing} - S+ have(has) not+been+V _{ing} ? Have(has)+S+been+V _{ing} ...? Since, when, for, how long	+ S+had been+V _{ing} - S+had not been+V _{ing} ? Had+S+been+V _{ing} ? How long, since, when	+ S+will+have+been+ V _{ing} - S+won't+have+been+V _{ing} ? Will+S+have+been+V _{ing} For, since, how long, since when

PASSIVE VOICE

	Present	Past	Future
Simple (Indefinite) (always, usually) to be+V_{III(ed)}	+ S+am,is,are+V _{III(ed)} - S+am,is,are+not+V _{III(ed)} ? Am, is, are+S+V _{III(ed)} ? always, usually, often, seldom, as a rule, regularly, every day	+ S+was(were)+V _{III(ed)} - S+ was(were)+not+V _{III(ed)} ? Was(were)+S+V _{III(ed)} ? Yesterday, ... ago, last (week, month, year), in 1990, the day before yesterday	+ S+will+be+V _{III(ed)} - S+won't+be+V _{III(ed)} ? Will+S+be+V _{III(ed)} ? Next..., tomorrow, soon, in 3 days, the day after tomorrow
Continuous (Progressive) (from 3 till 5, still, the whole day) to be+V_{III(ed)}	+ S+am,is,are+being+V _{III(ed)} - S+am,is,are+not+being+V _{III(ed)} ? Am, is, are+S+being+V _{III(ed)} ? now, at the moment, listen, look, still, at present	+ S+was(were)+being+V _{III(ed)} - S+was(were)+not+being+V _{III(ed)} ? Was(were)+S+being+V _{III(ed)} ? At 5 o'clock yesterday, from 3 till 5 yesterday, when ... came, while, whole evening	

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Perfect (by) to be+V_{III(ed)}	+ S+have(has)+been+V_{III(ed)} - S+haven't(hasn't)+been+V_{III(ed)} ? Have(has)+S+been+V_{III(ed)}? Already, ever, never, just, today, since, for, recently, yet, lately, so far, not yet, this (week, month, year)	+ S+had+been+V_{III(ed)} - S+had not+been+V_{III(ed)} ? Had+S+been+V_{III(ed)}? by, інша дія в минулому	+ S+will+have+been+V_{III(ed)} - S+will not+have+been+V_{III(ed)} ? Will+S+have+been+V_{III(ed)}? by, інша дія в майбутньому by 5 o'clock tomorrow, when he comes
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GRAMMAR EXERCISES

Exercise. 1. Open the brackets to put the verbs into Present Simple Passive Voice. Make true sentences.

1. Ferrari cars (make) in Italy.
2. Space shuttles (launch) from Florida.
3. Parmesan cheese (produce) in Italy.
4. Berlin (locate) in Spain.
5. Natural gas (export) from Russia.
6. Penguins (find) in Africa.
7. Honey (make) by bees.
8. Volkswagen cars (make) in Great Britain.
9. Snails (eat) in France.
10. Bananas (import) to Ukraine.
11. Coffee (grow) in Brazil.
12. English (speak) in many countries.
13. Elephants (find) in the Antarctic.
14. Soup (eat) with a knife.
15. Stamps (sell) at the Post office.

Exercise 2. Open the brackets to put the verbs into Present Simple Active or Passive Voice.

A) When you (to arrive) at an airport, you should go straight to the check-in desk where your ticket and luggage (to check). You (to keep) your hand luggage with you but your suitcases (to take) to the plane on a conveyor belt. If you are at an international flight, your passport (to check), and then you and your bags (to x-ray) by security cameras. Sometimes you (to give) a body search and your luggage (to search) by a security officer. You (to wait) in the departure lounge until your flight (to call) and you (to tell) which number gate to go. Finally you (to board) your plane and you (to show) your seat by a flight attendant.

B) Office Life

In 70% of British offices, employees (ban) from using social networking offices sites, such as Facebook. About 40% of Internet use in the office (not relate) to work. Almost half of work time (waste) on chat, drinking tea, and taking personal phone calls.

Most employees complain that they (overwork). Many people (stress) by the number of e-mails they receive. Stress at work (associate) with the risk of heart disease. It also (know) to cause depression.

Exercise 3. Krakatoa. Put the verbs in brackets in Past Simple Passive.

Did you know that the greatest explosion in the world was caused (cause) by a volcano? Krakatoa, an island in Indonesia, erupted in 1883. More than half the island 1) _____ (destroy). The explosion 2) _____ (hear) in India and Australia. Rocks 3) _____ (throw) more than 55 kilometres high into the air. Surprisingly, only a few people 4) _____ (kill), but a huge wave, 35 metres high, 5) _____ (create) by the explosion. Several small islands 6) _____ (cover) by the wave. 163 villages 7) _____ (destroy) and 36,000 people 8) _____ (drown). Dust 9) _____ (carry) all round the world, and the weather everywhere 10) _____ (affect) for many years afterwards.

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Exercise 4. Famous people quiz. Choose the correct answer. Use Past Simple Passive and the preposition by.

Leonardo da Vinci _____ the Ancient Greeks _____ Alexander Graham Bell

Lewis Carroll _____ Walt Disney _____ Marconi

The Ancient Egyptians _____ John Lennon _____ Christopher _____ Columbus Shakespeare

Example: Was "Alice's Adventures in Wonderland" written by Shakespeare? No, it wasn't. It was written by Lewis Carroll.

1. Was the "Mona Lisa" painted by Picasso?
2. Was the radio invented by Alfred Nobel?
3. Were the Pyramids built by the Chinese?
4. Was America discovered by Marco Polo?
5. Was the telephone invented by Siemens?
6. Was the song "Imagine" written by Elvis Presley?
7. Was Mickey Mouse created by Goscinnny and Uderzo?
8. Was "Romeo and Juliet" written by Agatha Christie?
9. Was the Parthenon built by the Ancient Romans?

Exercise 5. Fill in the blanks with the prepositions by or with.

1. The boat was carried _____ the waves into the open sea.
2. The teacher was pleased _____ our work.
3. America was discovered _____ Columbus.
4. "Hamlet" was written _____ Shakespeare.
5. Soup is eaten _____ a spoon.
6. He was knocked down _____ a big stick.
7. He was knocked down _____ a car.
8. He was taken to hospital _____ an ambulance.
9. He was treated _____ very effective drugs.
10. He was cured _____ a very skillful doctor.
11. The letter was written _____ a pencil.
12. He was scolded _____ his mother.

Exercise 6. Put the verbs in correct form, Present Simple or Past Simple, active or passive.

1. Water _____ (cover) most of the earth's surface.
2. How much of the earth's surface _____ (cover) by water?
3. The park gates _____ (lock) at 6.30 p.m. every evening.
4. The letter _____ (post) a week ago and it _____ (arrive) yesterday.
5. The boat hit a rock and _____ (sink) quickly. Fortunately everybody _____ (rescue).
6. Richard's parents _____ (die) when he was very young. He and his sister _____ (bring up) by their grandparents.

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7. While I was on holiday, my camera _____ (steal) from my hotel room.
8. While I was on holiday, my camera _____ (disappear) from my hotel room.
9. I saw an accident last night. Somebody _____ (call) an ambulance but nobody _____ (injure), so the ambulance _____ (not / need).
10. _____ (somebody / clean) this room yesterday?

Exercise 7. Complete each statement or question in the Present Continuous Tense, Passive Voice. The main verb is in parentheses.

1. The baby _____ by his mother. (feed)
2. My videos _____ by a lot of people on YouTube. (watch)
3. _____ you _____? (help)
4. I _____ by a strange person in the car behind me. (follow)
5. The room _____ by the housekeeping staff. (clean)
6. _____ she _____ at work? (train)
7. This TV show _____ around the world. (seen)
8. Those old computers _____ very much these days. (use -- negative)
9. My tomatoes _____ by chipmunks. (eat)
10. _____ Jeff _____ to Iraq? (send)

Exercise 8. Use Present or Future Simple Active or Passive to complete the following sentences.

1. Don't worry! You _____ (arrive) to the airport in time.
2. Your breakfast _____ (take up) to your room tomorrow morning.
3. The TV-set doesn't work now but it _____ (mend) soon.
4. This programme is going to be interesting. Millions of people _____ (watch) it on Friday.
5. I am sure somebody _____ (meet) you at the station.
6. The luggage _____ (inspect) by the customs officers.
7. The thief _____ (put) in prison after the trial.
8. United definitely _____ (win) tonight.
9. The workmen have a holiday today. The work _____ (finish) tomorrow.
10. The match _____ (play) on Wednesday evening.
11. A number of political prisoners _____ (release) within the next few months.
12. When I _____ (see) her I _____ (tell) her the whole story.
13. The prices _____ (rise) again this month.

Exercise 9. Put the verbs in brackets into Present or Past Continuous Active or Passive.

1. There are no doors. They _____ (paint).
2. The house _____ (redecorate) when I arrived.

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3. The workers _____ (make) our street one-way.
4. This type of computers now _____ (manufacture) in many European countries.
5. He _____ (drive) at over 100 kilometres when the accident happened.
6. When I left the laboratory, the lab assistant still _____ (test) the device.
7. We couldn't ride that way because the road _____ (widen).
8. The countries _____ (compete) with each other to build the tallest building.
9. Ann can't use her office at the moment. It _____ (redecorate).
10. The photocopier broke down yesterday, but now it's OK. It _____ (work) again.

Exercise 10. Choose Present Perfect or Past Simple Active or Passive.

1. When it became clear that he would be moving to Austria, he _____ (sell) the house to his brother.
2. All the copies of the book already _____ (sell out).
3. _____ the car _____ (sell) for \$2000 some days ago?
4. The tickets cost too much and _____ (sell) badly.
5. Do you know if your neighbours _____ (sell) their car?
6. According to yesterday's newspapers, astronomers in Australia _____ (discover) a planet in a galaxy close to ours.
7. A new planet _____ (discover) but I don't remember its name.
8. Radium _____ (discover) by Pierre and Marie Curie.
9. His father _____ (receive) so many complains about the noise that he told Chris to sell his drums.
11. Over 50 letters of support _____ (receive) in the last 10 days.
12. His project _____ (receive) a lot of attention lately.

Exercise 11. Turn from Active into Passive.

1. Someone is helping her with the housework. *She is being helped with the housework.*
2. Thousands of people bought the book. _____
3. You must give up your cigarettes _____
4. Fleming discovered pen education. _____
5. They opened the Statue of Liberty in 1886. _____
6. You can improve your health with more exercise. _____
7. They are holding the meeting at 11 o'clock. _____
8. My friend sent me an invitation. _____
9. The secretary has given Mrs Jones some letters. _____
10. The traffic warden had already given him a ticket for illegal parking. _____
11. People must obey the law. _____
12. They are performing the concert in London _____
13. They returned my keys to me: someone had picked them up in the street. _____

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14. You should keep the flowers in a warm sunny place. _____
15. A famous author was writing a TV documentary about India _____
16. We can't repair your clock. _____
17. Someone is interviewing Dr Johnson at the moment. _____
18. You mustn't touch this button. _____
19. They have made huge advances in computer technology in the last five years. _____
20. The newspaper must print the story tomorrow. _____

Exercise 12. Put the verb into the correct form. Use the Passive Voice where necessary.

A driver _____ (sent) to jail for 90 days for driving with excess alcohol. Graham Smith, 29, of North Street, Barton, _____ (stop) by a police officials near his home last November and _____ (find) to have drunk almost twice the legal limit for drivers, Didcot magistrates _____ (hear) on Thursday.

Twelve months earlier Smith _____ (disqualify) from driving for three years for drink-driving. He _____ (disqualify) for twelve months in 1988 for a similar offence.

Mr Peter Jones, defending, _____ (say) Smith _____ (use) the car to visit a sick friend.

He _____ (say) Smith _____ (depress) after the visit and _____ (go) to a pub and _____ (drink) six pints before driving home.

He _____ (catch) by police during a routine speed check in Wantage Road, Barton.

Exercise 13. Put the verb in brackets into the correct form

1. The instructions (to be recorded) in the order in which they are to be carried out.
2. Many new branches of industry (to be developed) in our country since World War II.
3. The concept of the stored program (to be worked out) by J. Neuman in 1945.
4. The constituent parts of the computer (to be called) hardware.
5. A new program (to be compiled) when I came.
6. All these calculations (to be done) by 5 o'clock yesterday.
7. The information (to be collected) by the end of the next week.
8. This examination (to be taken) tomorrow.
9. Your papers (to be typed) now. Wait a minute.
10. A new input device (to be discussed) when we came.
11. A new model of the printer (to be shown) tomorrow.
12. Microcomputers (to be applied) since the 1970s.
13. Only one branch of a program (to be selected) on each occasion.
14. "Connector" symbols (to be used) to show the exit to or the entry from another point in the same flowchart.

Exercise 14. Translate the sentences.

1. Боюся, рішення не буде прийнято до наступного ранку.
2. Тебе коли-небудь кусала собака?
3. На жаль, мене не часто запрошують на вечірки.
4. У нього вчора не було машини. Її ремонтували в автомайстерні.

UNIT 4. PERSONAL COMPUTERS. PASSIVE VOICE. PREPOSITIONS.

5. Де мій велосипед? Він зник! Його вкрали!
6. Вам вишлють результати іспиту, як тільки вони будуть готові.
7. Коли я йому зателефонував, він був зайнятий: у нього брали інтерв'ю.
8. Теда вжалила бджола, коли він сидів у саду.
9. Я думаю, тобі потрібно підстригтися. Коли ти був в перукарні останнього разу?
10. Яким іноземним мовам навчають у вашому університеті?
11. Над ним часто сміються. Він такий кумедний.
12. Я обіцяю, за дитиною добре доглянуть.

THE PREPOSITIONS

A preposition describes a relationship between other words in a sentence.

<u>Preposition</u>	<u>Meaning</u>	<u>Examples</u>
above	higher than or over	The sun is above the clouds.
across	from one side to the other	It's dangerous to run across the road.
after	following something later than	The boy ran after the ball. I'll phone you after lunch.
against	in opposition to in contact with	Stealing is against the law. The sofa is against the wall.
along	from one end to the other	They are walking along the street.
among	surrounded by	Peter was among the spectators.
around	in a circle near, approximately	He walked around the table. It costs around 50 euros.
before	earlier than in front of	The day before yesterday. He bowed before the king.
behind	at the back of	Passengers sit behind the driver.
below	lower than	His shorts are below his knees.
beneath	under	The pen was beneath the books.
beside	next to	The bank is beside the cinema.
between	in the space separating two things	Mary sat between Tom and Jane.
by	near, at the side of	The restaurant is by the river.
close to	near	The school is near the church.
down	from higher to lower	She pulled down the blind.
from	where something starts or originates	The wind is blowing from the north.
in	at a point within an area	The pen is in the drawer.
in front of	directly before	The child ran out in front of the bus.
inside	on the inner part of	The bird is inside the cage.
into	enter a closed space	He went into the shop.
near	close to	The school is near the church.
next to	beside	The bank is next to the cinema.

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off	down or away from	He fell off the horse.
on	in a position touching a surface	The plate is on the table.
onto	move to a position on a surface	The cat jumped onto the roof of the car.
opposite	facing, on the other side	Eva sat opposite Tom at the table.
out of	move from a closed space without	He got out of the taxi. She's out of work.
outside	opposite of inside	The garden is outside the house.
over	above/across on the surface of	The plane flew over the Atlantic. She put a sheet over the furniture.
past	beyond	She drove past the supermarket.
round	in a circular movement	The earth moves round the sun.
through	from one side to the other	The Seine flows through Paris.
throughout	in every part of	The virus spread throughout the country.
to	in the direction of / towards	On the way to the station.
towards	in the direction of	The child ran towards her father.
under	beneath, below	Water flows under the bridge.
underneath	beneath	There was dust underneath the rug.
up	towards or in a higher position	She walked up the stairs.

AT	ON	IN
at 6 o'clock at noon/midnight at Easter time at bedtime at lunchtime at the same time at the moment at present at the end of April at the age of 15 at night	on Monday on the first of May on Christmas Day on Easter Monday on her birthday on a rainy day on Monday evening on time	in September in 1998 in the 1980s in the 20 th century in the Middle Ages in the summer/winter etc. in the evening/morning etc. in two weeks

- **During** (a whole period of time or between the beginning and the end of a period of time)
I will be away during (all of) August.
- **Within** (at some point inside a length of time)
You have to return the book (some time) within the next week.
- **From...to/until**
He worked from 9 to/until 5.

GRAMMAR EXERCISES

PREPOSITIONS

Exercise 15. Fill in the gaps with the proper preposition of time.

UNIT 4. PERSONAL COMPUTERS. PASSIVE VOICE. PREPOSITIONS.

1. I like to watch TV _____ the evening.
2. My favourite program is on _____ 8:30 _____ Wednesday evening.
3. My ESL class begins _____ noon, so I am always at school _____ the afternoon.
4. My birthday is _____ winter. Actually, I was born _____ January _____ 1983.
5. _____ my birthday, I usually have a party.
6. I will see you _____ exactly two weeks.
7. Carlos arrived in Canada _____ April 2nd, 1999.
8. _____ a rainy day I like to stay at home and read a book.]
9. _____ the 1980s he worked in the movie industry.
10. _____ lunch time my friends and I usually go out.
11. A lot of people like to visit friends and family _____ Christmas time.
12. _____ the moment I am very busy, but I will be able to see you _____ next week.
13. Life _____ the 21 century is fast.

Exercise 16. Fill the prepositions in.

1. They are getting married _____ Friday _____ 6 o'clock _____ the evening.
2. _____ midnight they heard the shrill sound of the sirens.
3. We seldom travel _____ winter.
4. Let's stay here _____ the storm is over.
5. _____ tomorrow evening I will have finished my essay.
6. He hasn't felt well _____ a long time.
7. They never go out _____ night.
8. We'll be ready to leave _____ an hour.
9. _____ the storm, all the lights went out.
10. I will wait for you _____ tomorrow morning.

PREPOSITIONS OF LOCATION:

AT used to show a *location* or *destination* at a **POINT**:

- public places
- work places and stores
- events

I'll meet you at the lobby.

He'll wait for me at the bank.

I'll meet you at the church.

We arrived at the theatre on time.

I met her at the Christmas party.

Bill is at the dentist.

You can buy this at any super market

IN used to show *location* or *destination* in an **AREA**:

UNIT 4. PERSONAL COMPUTERS. PASSIVE VOICE. PREPOSITIONS.

- **cities, towns**
- **larger areas**
- **places that can be divided into smaller units**
- **containers**

Their cottage is in Kingston County.

The children were playing in the yard.

They arrived in Canada/Toronto/North America on Monday.

There is a fireplace in the living room.

Their wedding was held in an old church.

Is there any beer in the fridge?

The keys are in my bag/pocket.

ON used for *location on a SURFACE*:

- **roads, streets**
- **things that resemble a line (e.g. rivers)**

There is a book on the table.

There is a new roof on the house.

He put his head on my shoulder.

He had a stain on his shirt.

They live on the Humber River.

Exercise 17. Fill the proper prepositions in.

1. I'll meet you _____ the Statler Hotel.
2. If you want to reach that shelf, you have to stand _____ a chair.
3. You will find some stamps _____ the drawer of the desk.
4. We live _____ Toronto, _____ 157 Bloor Street.
5. The most important stories of the day are _____ the front page of the newspaper.
6. Please, play _____ the house; it is too cold outside.
7. The tax office is _____ the second floor.
8. We will wait for you _____ the lobby of the hotel.
9. Turn left _____ the intersection of Bloor and Bedford.
10. He was standing _____ the street corner.

ABOVE, OVER, UNDER, BELOW

above and over = higher than

The snow was so high it came over/above our knees.

We saw a flag flying over/above the house.

There are dark clouds over the entire city.

Below and under = lower than

You'll find the box in the cupboard under/below the sink.

She was wearing a shirt under her sweater.

The whole basement was under /water.

FROM

- (moving) away
- origin
- what substance is used to make something
- difference

He moved from Toronto to Hamilton.

He was absent from class.

She is from Taiwan.

Bread is made from flower, water, and yeast.

Chinese food is very different from Canadian food.

Note: LEAVE, ENTER, ATTEND, DISCUSS are verbs which do NOT take a preposition.

I left Japan last August.

He entered the room.

She has been attending college for two years.

We discussed the problem.

BUT!!!

She left Japan for Toronto in August. ('for' is used with 'leave' for destination)

Exercise 18. Fill the prepositions in.

1. He is studying _____ the University of Toronto.
2. The plane flew _____ the town.
3. The boy hid the money _____ a rock in the garden.
4. I met Bill _____ the Pearson Airport _____ Toronto.
5. They are flying _____ Paris _____ Toronto, and they will arrive _____ Toronto tomorrow.
6. After Toronto, they will have a holiday _____ the south, so they will leave _____ Mexico next week.
7. She put the bedspread _____ the bed.
8. I put the book _____ the box _____ the table _____ the living room.
9. He took an envelope _____ the drawer _____ his desk.

Other uses of AT, IN, ON

AT is used for:

- **specific temperatures, speeds, ages**
The temperature was at 25 degrees.
He drove at 120 kilometres per hour.
- **intended goal/target**
He stared/looked/glanced at her.
He threw a plate at her.
- **be good/bad at something**

IN is used for

- **works of art, printed material, publications**

In his essay he discusses public transportation.

In the photograph/painting/picture there were three little girls.

- **to show what someone is wearing**

The woman in the red dress is my cousin

- **to show how things are arranged or expressed**

She planted the lilies in a circle.

In a dictionary words are arranged in the alphabetical order.

We spoke to them in Finnish.

He turned to me in anger.

- **with small private vehicles**

In a taxi/car/jeep

- **have skill in something**

I have no skill in languages

ON is used

- **to indicate the topic of an academic work**

She made a presentation on Hieroglyphics.

His paper on the habitat of the flying squirrel was published in a journal.

- **to show that something is included on a list**

His name was included on the list of winners.

There were several items on the agenda.

- **with public transportation and telephone communication**

On the bus/plane/boat/train/streetcar

We spoke on the phone.

- **go on a trip/journey/holiday/picnic**

Exercise 19. Fill the prepositions in.

1. The audience threw tomatoes _____ the horrible comedian.
2. He spoke _____ me _____ a loud voice.
3. She is good/successful/skillful _____ chess.
4. Her skill _____ chess impressed me.
5. _____ this painting we can see Lawrence's use of light.
6. She cried _____ the sight of the starving child.
7. She was glancing impatiently _____ her watch.
8. I laughed _____ her ability to talk _____ circles.

OTHER COMMON PREPOSITIONS WITH MULTIPLE MEANING

BY

- **Agent**
- **How/through the means of.....**

In this factory bicycles are made by robots.

by plane/bus/train

UNIT 4. PERSONAL COMPUTERS. PASSIVE VOICE. PREPOSITIONS.

FOR

- **Length of time** *for two weeks*
- **Purpose** *I came here for my studies.*
..... *This is the best medication for a cold.*
- **Recipient** *I brought a present for my friend.*

OF

- **Belonging to** *the mother of the child*
- **Being part of** *the lid of the saucepan*
- **Coming from a background** *of Italian descent*
- **Showing** *a map of India*
- **Concerning** *talk/dream/think of doing something*

WITH

- **Accompanying** *She brought her children with her.*
- **Having** *He wore a shirt with a button-down collar*
- **By means of/using** *He tied it up with a piece of cloth.*

Exercise 20. Fill the prepositions in.

1. She improved her vocabulary _____ using a monolingual dictionary.
2. Do you take medicine _____ your cold?
3. There was a picture _____ her boyfriend on the desk.
4. His family is _____ Japanese origin.
5. I spoke with him _____ the telephone.
6. He contacted me _____ telephone.
7. I came to see you _____ some advice.
8. She wore a sweater _____ $\frac{3}{4}$ length sleeves.
9. She wiped the table _____ paper towel.
10. His name was _____ the list of candidates.
11. His articles _____ computer technology have appeared _____ many journals.
12. There is a message _____ you from the office.
13. You can make this soup better _____ adding some cream to it.
14. I feel sorry _____ you and _____ what happened.
15. I dream _____ marrying Bill _____ one day.
16. I dreamed _____ Bill _____ last night.
17. Butter is made _____ cream, and shoes are made _____ leather.
18. He is married _____ a lawyer.
19. We discussed _____ the problem.
20. I have not seen my friend _____ 6 months. _____ July she has been travelling _____ a station wagon _____ Canada _____ Newfoundland _____ British Colombia.
Unfortunately, her car broke _____ somewhere _____ Toronto and Winnipeg, so she had to return _____ train. She has been _____ the train _____ Tuesday.

Exercise 21. Fill in the gaps with in, at or on.

1. I have to be ...at... the airport two hours before my flight leaves.
2. I went to visit Joanne, but she wasn't ... home.
3. There were so many dishes ... the menu; I couldn't decide what to have.
4. I'd love to stay ... a beautiful hotel near the sea.
5. Jason is ... hospital with a broken leg.
6. The weather ... Ireland is often cold and wet.
7. She waited ... the platform to see the train come in.
8. It must be wonderful to live ... an island, surrounded by water.
9. What did you learn ... school today?
10. Suzy is the girl sitting ... my left.

Exercise 22. Underline the correct preposition.

1. The children climbed under/over the wall to escape from the angry gardener.
2. She walked quickly past/along the shops without looking in the windows.
3. The current is very strong. It would be dangerous to swim through/across this river.
4. She got dressed quickly and ran up/down the stairs to the kitchen.
5. Fiona is going to come to the party by/in her car.
6. I saw a man walking from/towards me smiling, but I didn't recognize him.
7. We tried to push our way through/towards the crowds to see our favorite singer.
8. There was no way to cross the lake, so we had to walk through/round it.
9. The boy got over/out of bed and went to the window.
10. I put the bags onto/into the table, then I put the shopping away.
11. You will see the post office on your right when you go through/round the corner.
12. She looked along/into her crystal ball and told the girl her fortune.

WRITING/SPEAKING

Think about advantages and disadvantages of using a desktop computer, a laptop and a palm computer. Compare them.

UNIT 5
OPERATING SYSTEM

Vocabulary Bank Unit 5

Task 1. Read, write the translation and learn the basic vocabulary terms:

- | | |
|------------------------------|-----------------------------|
| 1. abbreviation | 28. multiprogramming |
| 2. accommodation | 29. multi-tasking mainframe |
| 3. additional | 30. multi-user |
| 4. application program | 31. resident program |
| 5. applications software | 32. revenue stream |
| 6. assembly line | 33. robust |
| 7. background | 34. search engine |
| 8. batch | 35. shell |
| 9. circumstance | 36. shortcoming |
| 10. command driven | 37. source code |
| 11. command prompt | 38. sufficient |
| 12. commitment | 39. supervisor program |
| 13. computation | 40. to be aware |
| 14. environment | 41. to establish |
| 15. eye-watering price | 42. to facilitate |
| 16. facility | 43. to implement |
| 17. graphic engine | 44. to invoke |
| 18. graphical user interface | 45. to object to |
| 19. icon (<i>n</i>) | 46. to adopt |
| 20. interaction | 47. to allocate |
| 21. interface | 48. to boot |
| 22. kernel | 49. to entail |
| 23. key function | 50. to hack into |
| 24. layer | 51. to interrupt |
| 25. logout | 52. to lock |
| 26. memory-protection | 53. to look forward to |
| 27. multiple | 54. typesetting tool |

Text A. OPERATING SYSTEMS

Some operating systems are command driven (i.e. the user runs a program by typing a command). The screen is usually blank except for a symbol which acts as a command prompt. When the command is typed at the prompt and the Enter key is pressed, the command is processed and the output is displayed on the screen. OS commands are usually short words or abbreviations (e.g., date, logout, passwd, Is).

Unix is a command driven operating system used on all sizes of computers, but mostly large multi-user, multi-tasking mainframe computers. It is available in many versions, such as Linux, Minix etc.

Operating Systems: Hidden Software

When a brand new computer comes off the factory assembly line, it can do nothing. The hardware needs software to make it work. Are we talking about applications software such as wordprocessing or spreadsheet software? Partly. But an applications software package does not communicate directly with the hardware. Between the applications software and the hardware is a software interface - an operating system. An operating system is a set of programs that lies between applications software and the computer hardware.

The most important program in the operating system, the program that manages the operating system, is the supervisor program, most of which remains in memory and is thus referred to as resident. The supervisor controls the entire operating system and loads into memory other operating system programs (called non-resident) from disk storage only as needed.

An operating system has three main functions: (1) manage the computer's resources, such as the central processing unit, memory, disk drives, and printers, (2) establish a user interface, and (3) execute and provide services for applications software. Keep in mind, however, that much of the work of an operating system is hidden from the user. In particular, the first listed function, managing the computer's resources, is taken care of without the user being aware of the details. Furthermore, all input and output operations, although invoked by an applications program, are actually carried out by the operating system. Some operating systems have a GUI (pronounced like 'goo-ey' – graphical user interface) that allows the user to use a mouse to click on icons on the screen or choose commands from a list of choices known as a menu. Operating systems with graphical interfaces mentioned in this unit include: MacOS, OS/2, Penpoint, Windows NT, Windows 3.x, Windows 9X and Windows 2000.

General Features of Operating Systems

An operating system is a master control program which controls the functions of the computer system as a whole and the running of application programs. All computers do not use the same operating systems. Some software being only designed to run under the control of specific operating systems, it is important to assess the operating system used on a particular model before initial commitment. Some operating systems are adopted as “industry standards” and these are the ones which should be evaluated because they normally have a good software base. The reason for this is that software houses are willing to expand resources on the development of application packages for machines functioning under the control of an operating system which is widely used. The cost of software could be lower in such circumstances as the development costs are spread over a greater number of users, both actual and potential.

Mainframe computers usually process several application programs concurrently switching from one to the other for the purpose of increasing processing productivity. This is known as

UNIT 5. OPERATING SYSTEM. REPORTED SPEECH.

multiprogramming (multi-tasking in the context of microcomputers), which requires a powerful operating systems incorporating work scheduling facilities to control the switching between programs. This entails that data are read for one program while the processor is performing computations on another and printing out results on yet another.

In multi-user environments an operating system is required to control terminal operations on a shared access basis as only one user can access the system at any moment of time. The operating system allocates control to each terminal in turn. Such systems also require a system for record locking and unlocking, to prevent one user attempting to read a record whilst another user is updating it, for instance. The first user is allocated control to write to a record (or file in some instances) and other users are denied access until the record is updated and unlocked.

Some environments operate in concurrent batch and real-time mode. This means that a “background” job deals with routine batch processing whilst the “foreground” job deals with real-time operations such as airline seat reservations, on-line booking of hotel accommodation, or control of warehouse stocks, etc. The real-time operation has priority, and the operating system interrupts batch processing to deal with real-time inquiries or file updates. The stage of batch processing attained at the time of the interrupt is temporarily transferred to backing storage. After the real-time operation has been dealt with, the interrupted program is transferred back to internal memory from backing storage. And processing recommences from a “restart” point.

The operating system also copies to disk backing storage the state of the real-time system every few minutes (periodic check points) to provide a means of recovering the system in the event of a malfunction.

An operating system is stored on disk and has to be booted into the internal memory (RAM) where it must reside throughout processing so that commands are instantly available. The operating system commands may exceed the internal memory capacity of the computer in which case only that portion of the OS which is frequently used is retained internally, other modules being read in from disk as required. Many microcomputers function under the control of a disk operating system known as DOS.

Task 2. Answer the following questions.

1. What is an operating system? 2. What system provides an interface between applications programs and the computer hardware? 3. Is the work of the operating system always obvious to the user? 4. What is the most important program in an OS? 5. How does the supervisor program work? 6. What is the difference between resident and non-resident programs? 7. How can you explain the meaning “command driven”? 8. What is a command prompt? 9. How can you define Unix? What versions is it available in? 10. What do you know about GUI? 11. What are three main functions of an operating system? Give some examples to prove your answer. 12. Why is it important to assess the operating system on a computer before buying it? 13. What is multiprogramming?

Task 3. Give the Ukrainian equivalents for:

load, available, multi-tasking computer, user, user interface, word processor, non-resident programs, command-driven, execute, abbreviations, multi-user mainframe computer, printing files, blank, graphical user interface

UNIT 5. OPERATING SYSTEM. REPORTED SPEECH.

Task 4. Find the English equivalents for the following word combinations.

1. командний рядок, підказка; 2. прикладні програми; 3. текстовий процесор; 4. електронні таблиці; 5. операційна система; 6. пакет програм; 7. резидентна програма; 8. керуюча програма, програма розпорядник; 9. великі комп'ютери; 10. піктограми; 11. натиснути і відпустити клавішу; 12. апаратне забезпечення комп'ютера

Task 5. Mark the following as True or False.

1. The work of the operating system takes place in the background and is always obvious to the user. 2. The most important in an OS is the supervisor program. 3. Programs that remain in memory while the computer is in use are known as non-resident programs. 4. The screen is usually blank except for a symbol (e.g.\$) which acts as a command prompt. 5. OS commands are usually long words. 6. Unix is a command driven operating system used in all sizes of computer but mostly large multi-user, multi-tasking mainframe computers. 7. The hardware doesn't need software to make it work. 8. An application software package communicates directly with the hardware. 9. An operating system has only two main functions.

Task 6. Match the terms in Table A with the statements in Table B.

Table A	Table B
1. operating system	a. The hardware or software that connects two systems and allows them to communicate with each other.
2. interface	b. A popular multi-user multi-tasking operating system originally designed for mainframe computers. A wide variety of versions exist.
3. applications (program or software)	c. The set of programs that controls the basic functions of a computer and provides communication between the application programs and the hardware.
4. Unix	d. A computer program designed to be used for a particular purpose, e.g. a wordprocessor, spreadsheets or database program.
5. menu	e. A type of application program with an array of cells that is used for calculating formulas.
6. spreadsheet	f. A list of options displayed on a computer screen.
7. swipe card	g. An application program or collection of programs that can be used in different ways.
8. word processor	h. A type of computer application program used for typing and editing text documents.
9. software package	i. A plastic card with a magnetic strip running across it containing confidential data.

Task 7. Fill in the blanks with the words from the box.

interface, supervisor, manage, memory, package, software, drives, interface, nonresident, command driven

UNIT 5. OPERATING SYSTEM. REPORTED SPEECH.

1. An applications software ... does not communicate directly with the hardware. 2. Between the applications software and the hardware is a software ... – an operating system. 3. The most important program in the operating system is the ... program, most of which remains in memory. 4. An operating system has three main functions: 1) ... the computer resources, such as the central processing unit, ..., disk ... and printers, 2) establish a user ... , and 3) execute and provide services for applications 5. Unix is a ... operating system used in all sizes of computers. 6. Programs that only stay in memory while they are being used are known as ... programs.

Task 8. Complete the gaps in this summary of the text on operating systems using these linking words and phrases.

although because in addition such as but therefore

The user is aware of the effects of different applications programs ... operating systems are invisible to most users. They lie between applications programs, ... wordprocessing, and the hardware. The supervisor program is the most important. It remains in memory, ... it is referred to as resident. Others are called non-resident ... they are loaded into memory only when needed. Operating systems manage the computer's resources, ... the central processing unit , they establish a user interface, and execute and provide services for applications software. ... input and output operations are invoked by applications programs, they are carried out by the operating system.

Task 9. Here is a list of typical tasks performed by an operating system. In each case the main verb has been omitted. Fill in the blanks using the words a) execute, b) monitor, c) format, d) diagnose. Sometimes more than one may apply

A typical operating system will:

1. input and output devices.
2. the status of hardware devices.
3. hardware interrupts.
4. new disks.
5. disk directories.
6. disk reading and writing operations.
7. disk errors.
8.disk commands relating to the deletion, copying, renaming, and dumping of files.

Task 10. Problem-solving: try to find the commands from the lists below which will have these actions.

VMS: help, directory, search, copy, rename, print, show users, show time, create/directory, phone, delete
Unix: write, cp, lpr, ls, mkdir, date, rm, man, grep, rwho, mv

UNIT 5. OPERATING SYSTEM. REPORTED SPEECH.

Action	VMS command	Unix command
List all the files in a directory Delete a file Rename a file Copy a file Send a file to a printer Obtain help Create a directory Show date and time Show users on system Talk to other users on system Search for a string in a file		

Task 11. Translate the following sentences into English. Mind grammar

1. В даний час існує багато видів різних системних програм, і операційна система займає серед них особливе місце.
2. На продуктивність, надійність, і функціональні можливості персонального комп'ютера впливають багато факторів, встановлена на ньому операційна система - один з них.
3. Коли операційна система здатна виконувати декілька завдань, причому ці завдання виконуються одночасно, вона називається багатозадачною.
4. Операційна система контролює роботу процесора і, якщо запущена задача потребує ресурсів, то її виконання має бути призупинено до отримання ресурсу.
5. Можливості персональних комп'ютерів з обробки інформації обмежені, причому параметри обсягу оброблюваної інформації і швидкості обчислень є найбільш критичними.

TEXT 5B

Task 12. Find the answers to these questions in the following text

1. What did Linus Torvalds use to write the Linux kernel?
2. How was the Linux kernel first made available to the general public?
3. What is a programmer likely to do with source code?
4. Why will most software companies not sell you their source code?
5. What type of utilities and applications are provided in a Linux distribution?
6. What is X ?
7. What graphical user interfaces are mentioned in the text?

LINUX

Linux has its roots in a student project. In 1992, an undergraduate called Linus Torvalds was studying computer science in Helsinki, Finland. Like most computer science courses, a big component of it was taught on (and about) Unix. Unix was the wonder operating system of the 1970s and 1980s: both a textbook example of the principles of operating system design, and sufficiently robust to be the standard OS in engineering and scientific computing. But Unix was a commercial product (licensed by AT&T to a number of resellers), and cost more than a student could pay.

Annoyed by the shortcomings of Minix (a compact Unix clone written as a teaching aid by Professor Andy Tannenbaum) Linus set out to write his own 'kernel' — the core of an operating system that handles memory allocation, talks to hardware devices, and makes sure everything keeps running. He used the GNU programming tools developed by Richard Stallman's Free Software Foundation, an organisation of volunteers dedicated to fulfilling Stallman's ideal of making good software that anyone could use without paying. When he'd written a basic kernel, he released the source code to the Linux kernel on the Internet.

Source code is important. It's the original from which compiled programs are generated. If you don't have the source code to a program, you can't modify it to fix bugs or add new features. Most software companies won't sell you their source code, or will only do so for an eye-watering price, because they believe that if they make it available it will destroy their revenue stream.

What happened next was astounding, from the conventional, commercial software industry point of view - and utterly predictable to anyone who knew about the Free Software Foundation. Programmers (mostly academics and students) began using Linux. They found that it didn't do things they wanted it to do – so they fixed it. And where they improved it, they sent the improvements to Linus, who rolled them into the kernel. And Linux began to grow.

There's a term for this model of software development; it's called Open Source (see www.opensource.org/ for more information).

Anyone can have the source code – it's free (in the sense of free speech, not free beer). Anyone can contribute to it.

If you use it heavily you may want to extend or develop or fix bugs in it - and it is so easy to give your fixes back to the community that most people do so.

An operating system kernel on its own isn't a lot of use; but Linux was purposefully designed as a near-clone of Unix, and there is a lot of software out there that is free and was designed to compile on Linux. By about 1992, the first 'distributions' appeared.

A distribution is the Linux-user term for a complete operating system kit, complete with the utilities and applications you need to make it do useful things – command interpreters, programming tools, text editors, typesetting tools, and graphical user interfaces based on the X windowing system. X is a standard in academic and scientific computing, but not hitherto common on PCs; it's a complex distributed windowing system on which people implement graphical interfaces like KDE and Gnome.

As more and more people got to know about Linux, some of them began to port the Linux kernel to run on non-standard computers. Because it's free, Linux is now the most widely-ported operating system there is.

UNIT 5. OPERATING SYSTEM. REPORTED SPEECH.

Task 13. Match the term with the definition.

Table A	Table B
a Kernel b Free Software Foundation c Source code d Open Source e A distribution f X	i A type of software development where any programmer can develop or fix bugs in the software ii The original systems program from which compiled programs are generated iii A complete operating system kit with the utilities and applications you need to make it do useful things iv A standard distributed windowing system on which people implement graphical interfaces v An organisation of volunteers dedicated to making good software that anyone could use without paying vi The core of an operating system that handles memory allocation, talks to hardware devices, and makes sure everything keeps running

Task 14. Mark the following statements as True or False:

1. Linux was created in the 1980s.
2. Minix was created by a university student.
3. Linux is based on Unix.
4. Minix is based on Unix.
5. Linux runs on more types of computer than any other operating system.

GRAMMAR REVIEW

REPORTED SPEECH

The sequence of tenses in the subordinate clauses:

Main clause	Action	Subordinate clause	Examples
PAST	Simultaneous	The Past Indefinite or the Past Continuous (no matter which of the past tenses is used in the principle clause)	<i>Mark was watching her while she <u>was</u> reading.</i>
	Preceding	The Past Perfect or the Past Perfect Continuous (no matter which of the past tenses is used in the principle clause)	<i>He didn't know why she <u>had</u> <u>left</u> without leaving a note.</i>
	Following	Future-in-the-Past (no matter which of the past tenses is used in the principle clause)	<i>The note on the table said that she would not back.</i>
PRESENT	Simultaneous	The Present Indefinite or the Present Continuous (no matter which of the past	<i>James has told me that he <u>is</u> too busy now.</i>

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		tenses is used in the principle clause)	
	Preceding	The Present Perfect, the Past Indefinite, the Present Perfect Continuous or the Past Continuous (no matter which of the past tenses is used in the principle clause)	<i>I don't think we <u>have met</u> before. From your looks it's clear that it <u>has been raining</u> hard.</i>
	Following	Means of expressing future (no matter which of the past tenses is used in the principle clause)	<i>I hope he <u>will help</u> me.</i>
FUTURE	Simultaneous	The Present Indefinite or the Present Continuous	<i>They will find they <u>have</u> much to do there.</i>
	Preceding	The Present Perfect or the Past Indefinite	<i>He will find that Mary <u>has left</u>.</i>
	Following	Means of expressing future	<i>I'll let you know what he will do.</i>

TENSE CHANGE - IN - INDIRECT SPEECH

Present Simple tense **into** Past Simple

Present Continuous tense **into** Past Continuous

Present Perfect tense **into** Past Perfect

Present Perfect Continuous **into** Past Perfect Continuous

Past Simple **into** Past Perfect

Past Continuous **into** Past Perfect Continuous

Past Perfect **into** Past Perfect

Future Simple, will **into** would

Future Continuous, will be **into** would be

Future Perfect, will have **into** would have

DIRECT SPEECH	INDIRECT SPEECH
PRESENT TENSE	
PRESENT SIMPLE changes into PAST SIMPLE	
He said, "I write a letter"	He said that he wrote a letter.
She said, "He goes to school daily"	He said that she went to school daily.
They said, "We love our country"	They said that they loved their country.
He said, "He does not like computer"	He said that he did not like computer.
PRESENT CONTINUOUS changes into PAST CONTINUOUS	
He said, "He is listening to the music"	He said that he was listening to the music.
She said, "I am washing my clothes"	She said that she was washing her clothes.

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They said, "We are enjoying the weather"	They said that they were enjoying the weather.
She said, "I am not laughing"	She said that she was not laughing.
PRESENT PERFECT changes into PAST PERFECT	
She said, "He has finished his work"	She said that he had finished his work.
He said, "I have started a job"	He said that he had started a job.
I said, "She has eaten the meal"	I said that she had eaten the meal.
They said, "We have not gone to New York."	They said that they had not gone to New York.
PRESENT PERFECT CONTINUOUS changes into PAST PERFECT CONTINUOUS	
He said, "I have been studying since 3 o'clock"	He said that he had been studying since 3 o'clock.
She said, "It has been raining for three days."	She said that it had been raining for three days.
I said, "She has been working in this office since 2007"	I said that she had been working in this office since 2007.
PAST TENSE	
PAST SIMPLE changes into PAST PERFECT	
He said to me, "You answered correctly"	He said to me that I had answered correctly.
John said, "They went to cinema"	John said that they had gone to cinema.
He said, "I made a table"	He said that he had made a table.
She said, "I didn't buy a car"	She said that she had not bought a car.
PAST CONTINUOUS changes into PAST PERFECT CONTINUOUS	
They said, "We were enjoying the weather"	They said that they had been enjoying the weather.
He said to me, "I was waiting for you"	He said to me that he had been waiting for me.
I said, "It was raining"	I said that it had been raining.
She said, "I was not laughing"	She said that she had not been laughing.
PAST PERFECT changes into PAST PERFECT (tense does not change)	
She said, "She had visited a doctor"	She said that she had visited a doctor.
He said, "I had started a business"	He said that he had started a business.

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I said, "She had eaten the meal"	I said that she had eaten the meal.
They said, "We had not gone to New York."	They said they had not gone to New York.
FUTURE TENSE	
FUTURE SIMPLE TENSE WILL changes into WOULD	
He said, "I will study the book"	He said that he would study the book.
She said, "I will buy a computer"	She said that she would buy a computer.
They said to me, "We will send you gifts"	They said to me that they would send me gifts.
I said, "I will not take the exam"	I said that I would not take the exam.
FUTURE CONTINUOUS TENSE WILL BE changes into WOULD BE	
I said to him, "I will be waiting for him"	I said to him that I would be waiting for him.
She said, "I will be shifting to a new home"	She said that she would be shifting to a new home.
He said, "I will be working hard"	He said that he would be working hard.
He said, "He will not be flying kite"	He said that he would not be flying kite.
FUTURE PERFECT TENSE WILL HAVE changes into WOULD HAVE	
He said, "I will have finished the work"	He said that he would have finished the work.
She said, "They will have passed the examination"	She said that they would have passed the examination.
He said, "I will have gone"	He said that he would have gone.

The sequence of tenses is:

VIOLATED	STRICTLY OBSERVED
<ol style="list-style-type: none"> 1. in present-time contexts after a past form in the principal clause when the reference is made to <ol style="list-style-type: none"> a. the actual present time (<i>I told her that we <u>are</u> always glad to see her</i>) b. the actual past time (<i>They left an hour ago. You said you <u>didn't want</u> to go</i>) 	<ol style="list-style-type: none"> 1. in object clauses (↑) 2. in subject and predicative clauses (<i>It is strange how she <u>left</u></i>) 3. in appositive clauses (<i>She had the fear that smth terrible <u>would happen</u></i>) 4. in clauses of purpose (<i>He turned on the light so that everyone <u>could see</u> him</i>)

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c. the actual future time (<i>Did you know they <u>are coming</u> tomorrow?</i>)	5. in simple sentences in the inner speech (<i>It <u>wasn't</u> actually as bad. Tom <u>was to leave</u> for college, but it <u>didn't mean</u> Kelly <u>would stay</u> alone</i>)
2. after a past form in the principal clause when we speak about the general truth (<i>He understood how important the profession of a doctor <u>is</u></i>)	6. in simple sentences with an inserted parenthetic sentence (<i>It was all right, James <u>thought</u> to himself</i>)
3. with modal verbs which have only one form – MUST, SHOULD, OUGHT TO, NEED (<i>I said I <u>must be</u> off</i>)	

OUT-OF-DATE-REPORTING

Direct speech	Reported speech
Present simple "I want to go to bed early," he said.	Past simple He said (that) he wanted to go to bed early.
Present continuous "She is feeding the baby," he said.	Past continuous He said (that) she was feeding the baby.
Present perfect "I have bought a new dress," she said.	Past perfect She said (that) she had bought a new dress.
Past simple "I finished work early," Alex said.	Past simple or past perfect Alex said (that) he (had) finished work early.
Past continuous "I was planning to call you later," she said.	Past continuous or Past perfect continuous She said (that) she was planning/ had been planning to call me later.
Future (will) "I will talk to you tomorrow," she said.	Conditional (would) She said (that) she would talk to me the next day.

The sequence of tenses is not observed in Object Clauses when:	
• a general truth or scientific law is expressed:	<i>Copernicus concluded that the earth goes round the sun.</i>
• something habitual, customary, or characteristic is represented:	<i>We asked a bank clerk when the bank closes.</i>
• in newspaper and magazine articles:	<i>It was announced in Cairo yesterday that the election will be held in June</i>

Nearness		Distance	
Now	then, at this time, immediately	<i>last week</i>	<i>the week before,</i>
this	that		<i>the previous week</i>
today,	that day,	<i>next week</i>	<i>the week after,</i>
tonight	that night		<i>the following week</i>
yesterday	the day before, the previous day	<i>two days ago</i>	<i>two days before</i>
tomorrow	the next day, the following day	<i>here</i>	<i>there</i>
this week	that week	<i>come</i>	<i>go</i>

UNIT 5. OPERATING SYSTEM. REPORTED SPEECH.

We can use the verbs **say** and **tell** both in direct and reported speech.

Tell is always followed by a personal object (**told me**).

Say is used with or without a personal object. When used with a personal object it is always followed by the preposition **to** (**said to me**).

Study the following examples:

<i>Direct speech</i>	<i>Reported speech</i>
He said , "I'm Ted."	He said (<i>that</i>) he was Ted.
He said to me , "I'm Ted".	He said to me that he was Ted.
He told me , "I'm Ted".	He told me that he was Ted.

Say and **tell** are also used with the following expressions:

say	good morning, afternoon, etc., something, nothing, etc., one's prayers, so, a few words
tell	the truth, a lie, a secret, a story, the time, the difference, smb one's name, smb the way, one from another, one's fortune

MODAL VERBS CHANGES

Direct speech	Reported speech
He said, "I will have some tea."	He said (that) he would have some tea.
He said, "She can type fast."	He said (that) she could type fast.
He said, "I can talk to you tomorrow."	He said (that) he could/would be able to talk to me next day. (it refers to the future)
He said, "They may come home."	He said (that) they might come home.
He said, "What shall I tell her?"	He asked what he should tell her.
He said, "You must stay in."	He said (that) I must/had to stay in.
He said, "She must be exhausted."	He said (that) she must be exhausted.

Direct Question	Indirect Question
What are you doing ?	He asked me what I was doing .
Where do you live ?	He wanted to know where I lived .
When did you see Tom?	He asked me when I had seen Tom.
Where is the manager ?	He asked me where the manager was .
Who has broken the window?	She wondered who had broken the window.
Ask (someone) + if + підрядне речення	
Direct question	Reported question
Are you watching TV?	He asked (me) if I was watching TV.
Do you like sailing?	He wanted to know if I liked sailing.
Did you eat raw fish?	He wondered if I had eaten raw fish.
Have you found your passport?	He asked me if I had found my passport.
Will you fly to Paris tomorrow?	He wondered if I would fly to Paris the next day.

UNIT 5. OPERATING SYSTEM. REPORTED SPEECH.

Indirect speech for exclamatory and imperative sentences.

Indirect speech of imperative sentence

A sentence which expresses command, request, advice or suggestion is called *imperative sentence*.

For example,

Open the door.

Please help me.

Learn your lesson.

To change such sentences into indirect speech, the word “ordered” or “requested” or “advised” or “suggested” or “forbade” or “not to do” is added to reporting verb depending upon nature of imperative sentence in reported speech.

Examples.

Direct speech: He said to me, “Please help me”

Indirect Speech: He *requested* me to help him.

Direct speech: She said to him, “You should work hard for exam”

Indirect Speech: She *suggested* him to work hard for exam.

Direct speech: They said to him, “Do not tell a lie”

Indirect Speech: They said to him *not to* tell a lie.

Direct speech: He said, “Open the door”

Indirect Speech: He *ordered* to open the door.

GRAMMAR EXERCISES

Exercise. 1. Fill in the gaps with say or tell in the correct tense.

A. Katie 1) told Dave that she had met a set of twins at a party. “They looked exactly the same,” she 2) _____. “I couldn’t 3) _____ the difference between them.” “I’ve got a twin brother, too,” 4) _____ Dave. “Are you 5) _____ me the truth?” asked Katie. “6) _____ me his name.” “His name is Stephen,” Dave 7) _____ her. “I’ll take you to meet him tomorrow.”

B. “You never listen to me,” Tara 1) _____ Jim. “I 2) _____ good morning to you three times today and you didn’t answer,” she 3) _____. “To 4) _____ you the truth, it makes me really angry. Why don’t you listen to me?” “Oh, hello Tara,” said Jim. “Did you just 5) _____ something?”

C. “Claire 1) _____ me that she and John are getting married,” 2) _____ Sue. “She 3) _____ that they’re going to have a big wedding with lots of guests.” “That will be expensive,” 4) _____ Tom. “I thought John 5) _____ that they couldn’t afford a big wedding.” “Well, that’s what Claire 6) _____ me, 7) _____ Sue. “I don’t think she would 8) _____ a lie.”

UNIT 5. OPERATING SYSTEM. REPORTED SPEECH.

Exercise. 2. Turn the following sentences into reported speech.

1. He said, "I'm going to the station."

He said (that) he was going to the station.

2. Tina said, "You should exercise regularly."

3. They said, "We had booked the room before we left."

4. Tom said, "This meal is delicious."

5. "I've written you a letter," she said to her friend.

6. "We've decided to spend our holidays in Jordan," they told us.

7. Jill said, "I'll go to the bank tomorrow."

8. She said to him, "We've been invited to a wedding."

9. She told me, "You must leave early tomorrow."

10. "They've gone out for the evening," Jessie said to me.

11. They said, "We may visit Joe tonight."

12. She said, "I can meet you on Tuesday."

13. Keith said, "There is a letter for you on the table."

14. "We won't be visiting Tom this evening," Sam told us.

15. Eric said, "They had been talking on the phone for an hour before I interrupted them."

16. "I haven't spoken to Mary since last week," Gloria said.

17. "They delivered the letters this morning," she said.

18. He said, "I'd like to buy this jumper."

19. "They aren't going on holiday this year," he said.

20. Jane said, "I haven't finished my homework yet."

21. "I'm going to bed early tonight," Caroline said.

22. "My mother is coming to visit us," I said.

UNIT 5. OPERATING SYSTEM. REPORTED SPEECH.

23. "We don't want to watch a film tonight," the children said.

24. "He's playing in the garden now," his mother said.

25. She said, "You must do your homework now."

Exercise 3. Turn the sentences into reported speech. In which of the following sentences do the tenses not change? In which do they not have to be changed?

1. The article says, "The artist only uses oil paints."

The article says (that) the artist only uses oil paints.

The tenses do not change because the introductory verb is in the present simple.

2. "They are working hard today," he said.

3. "I've done the things you asked me to do," Mary said.

4. "The sun rises in the east," she said.

5. "He broke the window," they said.

6. "We've never been on holiday abroad," they said.

7. Mum says, "Dinner is ready."

8. "I'll start cooking at six o'clock," she said.

9. "We went to the supermarket yesterday," he said.

10. Mrs Jones says, "My daughter is going to have a baby."

11. "You're never going to get a job," Dad always says.

12. "Fish live in water," he said.

13. "We went to the beach last weekend," they said.

14. "He showed me his photographs," she said.

15. "I'm working on my project now," Billy said.

UNIT 5. OPERATING SYSTEM. REPORTED SPEECH.

Exercise. 4. Reported questions.

1. "Where do you live?" I asked her.

I asked her where she lived.

2. "How old will you be on your next birthday?" he asked me.

3. "Where is your umbrella?" she asked her daughter.

4. "Do you like playing football?" John asked us.

5. The boss asked, "What time are you going home today?"

6. "Will you take the children to school today?" he asked.

7. "Who called you today?" she asked.

8. "When will you decorate the kitchen?" Martha asked.

9. "Who broke my vase?" I asked.

10. Father asked, "Will you help me lift these boxes, please?"

11. "Can you speak a foreign language?" she asked her.

12. "Where is the tourist information center?" we asked.

Exercise. 5. Fill in the gaps with the introductory verbs in the list in the correct form.

order

tell

ask

beg

suggest

1. "Please visit me in hospital," Joan said to Colin.

Joan asked Colin to visit her in hospital.

2. "Let's eat out this evening," Paul said to her.

Paul _____ eating out that evening.

3. "Please, please be careful," she said to him.

She _____ him to be careful.

4. "Don't go near the fire," Dad said to us.

Dad _____ us not to go near the fire.

5. "Be quiet!" the commander said to the troops.

The commander _____ the troops to be quiet.

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Exercise. 6. Turn the following sentences into reported speech.

1. The doctor said to the patient, "Come back to see me again next week."

The doctor told the patient to go back and see him again the following week/the week after.

2. The guard said to the driver, "Stop!"

3. He said, "Shall we go for a walk?"

4. She said to him, "Please, please don't leave me!"

5. Jenny said to Dave, "Please help me with this."

6. She said to him, "Open the window, please."

7. Mother said, "How about going for a drive?"

8. She said, "Let's eat now."

Exercise 7. You are being interviewed for a job and are asked the owing questions. When you come back home, tell your parents the questions you were asked.

1. How old are you? 2. Where do you live? 3. What's your address? 4. What school did you go to? 5. When did you leave school? 6. Where are you working now? 7. Who are you working for? 8. How long have you been working? 9. Are you enjoying your present job? 10. How big is your salary? 11. Why do you want to leave?

Exercise 8. Change the sentences into indirect speech.

1. I confess that I'm a shopaholic. 2. Let me tell you that every time I see you, I'm shining like a candle in the night. 3. He is terribly sorry for the things he has done. 4. It's a beautiful fish, we shall let it go. 5. I'm sorry to say that I don't believe you and I never will. 6. The inspector worked hard, but it didn't get him anywhere. 7. This film is a work of fiction. 8. Can you kiss me goodbye? 9. We are having a very lazy time. 10. David saw a flying saucer last summer. 11. — I have a chronic headache. My organism needs a painkiller. — Take this pill. It will have an immediate effect. Though it may have some side effects as well.

Exercise 9. Retell the following jokes in indirect speech.

1. Dentist: Stop screaming! I haven't touched your tooth yet.
Barry: I know, but you're standing on my foot.

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2. What are two reasons why men don't mind their own business? 1. no mind 2. no business.
3. Bill: Why the glum look?
Stan: I just don't understand today's world. My son wears an earring. My daughter has a tattoo. My wife makes twice what I do.
Bill: So what are you going to do?
Stan: I'm going home to my father.
4. When he found a six-year-old shoe-repair ticket in the pocket of an old suit, Brown called the shop to see if the shoes were still around.
"Were they black wing tips needing half soles?" asked a clerk.
"Yes," said Brown. "We'll have them ready in a week."
5. Mother to daughter:
 - What kind of person is your new boyfriend? Is he respectable?
 - Of course, he is, Mom. He's thrifty, doesn't drink or smoke, has a very nice wife and three well-behaved children. (from "Stupid Men's Jokes")

Exercise 10. Retell the following jokes in indirect speech.

1. A man walked into the emergency room with both of his ears badly burnt. The man explained, "The phone rang and I picked up the iron by mistake." The nurse asked, "How did you burn the other ear?" "I did that," said the man, "when I went to phone the ambulance."
 2. A telephone man was trying to measure the telephone pole but couldn't figure out how to climb up the pole. He radioed the office and they suggested that he should lay the pole down on the ground and measure it. The phone man didn't like that idea. "That won't work. I need to measure how high it is, not how long."
 3. Did you hear about the man who died from jumping out of an airplane? It seems he was watching the movie, forgot where he was and stepped out for some more popcorn.
 4. "I have good news and bad news," the defence attorney told his client. "First, the bad news. The blood test came back, and your DNA is an exact match with that found at the crime scene." "Oh, no!" cried the client. "What's the good news?" "Your cholesterol has gone down to 140."
- (From "Stupid Men's Jokes")

Exercise 11. Read the jokes and retell them in indirect speech

1. If an Englishman gets run down by a truck, he apologizes to the truck.
2. A foreign visitor to England is completely baffled by the language and struggles with the pronunciation of words such as "enough", "bough" and "though". He usually gives up altogether when he reads a local newspaper headline "Fete Pronounced Success".
3. An American tourist comes to London to stay at a top hotel. He picks up the phone one morning and asks for room service. He says, "I want three overdone fried eggs that are hard as a rock, toast that is burnt to a cinder and a cup of black coffee that tastes like mud."
"I'm sorry, sir," replies room service, "we don't serve breakfast like that." "Well, you did yesterday!"

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4. An old woman from the country is visiting the big city for the first time in her life. She checks in at a smart hotel and lets the bellboy take her bags. She follows him but as the door closes, her face falls. "Young man," she says angrily. "I may be old and straight from the hills, but I ain't stupid. I paid good money and this room won't do at all. It's short of what I expected. It's too small and there's no proper ventilation. Why, there's not even a bed!" "Ma'am," replies the bellboy, "this isn't your room. It's the elevator!"

Exercise 12. Translate.

1. Вчора я зустріла Марка і він розповів мені, що Хігінси переїхали в новий триповерховий будинок на сусідній вулиці. Я відповіла, що якби у мене було стільки грошей, я б зробила те ж саме. 2. Джон сказав, що він хотів би запросити Мері повечеряти де-небудь в наступну суботу. 3. Місіс Морріс сказала, що Джим зараз дивиться фільм жахів і не хоче відповідати на дзвінок. 4. Філ сказав, що піде до лікаря наступного тижня. 5. Трейсі сказала, що статуя Свободи знаходиться в Америці. 6. Менеджер попросив мене не бути грубим з покупцями. 7. Селлі запитала мене, скільки мені було років, коли я вперше літала на літаку. 8. Біллі сказав, що кенгуру живуть в Австралії. 9. Вона сказала, що їй слід було б вибачитися. 10. Тренер сказав, що на вашому місці, я б не їв так багато вуглеводів перед сном. 11. Учитель попросив Майкла не розливати воду на підлогу. 12. Мама попросила Алана не чіпати руками гарячу духовку. 13. Містер Браун сказав зробити тихіше звук телевізора, вимкнути світло і не перемикає без кінця канали. 14. Боб запропонував нам сходити в кіно. Всі із задоволенням погодилися подивитися першу серію третього сезону улюбленого серіалу "Sherlock". 15. Ти не знаєш, чи є в цьому готелі Wi-Fi зона? А то я мамі обіцяв зателефонувати, як тільки ми поселимося. 16. Скажіть, будь ласка, тут можна (дозволяється) палити? 17. Поліція нас попередила, що гірські дороги дуже небезпечні і порадила не перевищувати швидкість, а особливо не виїжджати на зустрічну смугу і не здійснювати обгін.

SPEAKING/WRITING

Task. Topics for discussion (Speaking/Writing).

1. Speak on the operating system.
2. Speak on the most important program in an OS-the supervisor program.
3. What is Unix? Give its characteristics.
4. Speak about OS as hidden software.

UNIT 6
GRAPHICAL USER INTERFACE

Vocabulary Bank Unit 6

Task 1. Read, write the translation and learn the basic vocabulary terms:

- | | |
|-------------------------|-------------------------------------|
| 1. to add effects | 28. rendering |
| 2. approach | 29. recent trend |
| 3. background screen | 30. researcher |
| 4. bitmapped | 31. resolution |
| 5. check boxes | 32. responsive |
| 6. content | 33. scope |
| 7. contextual | 34. search tool |
| 8. cut and paste editor | 35. self-explanatory icons |
| 9. desk accessories | 36. simultaneously |
| 10. drop-down menu | 37. single prompt |
| 11. easy-to-use | 38. standard procedure |
| 12. evocative | 39. text-based |
| 13. execute a command | 40. to influence greatly |
| 14. folders directories | 41. to offer |
| 15. generic | 42. to perform |
| 16. graphic applets | 43. to release |
| 17. incorporated | 44. to resemble |
| 18. instant access | 45. to restrict |
| 19. intuitive | 46. transparency |
| 20. major | 47. two-dimensional |
| 21. manipulation | 48. typed command labels |
| 22. overlap | 49. viewing area |
| 23. partial | 50. volumetric |
| 24. pop-up menu | 51. widespread |
| 25. pull-down menu | 52. WIMP (Windows, Icons, Menus and |
| 26. raster graphics | Pointer) |
| 27. recall | |

TEXT A. THE GRAPHICAL USER INTERFACE

The term 'user interface' refers to the standard procedures the user follows to interact with a particular computer. A good user interface is important because when you buy a program you want to use it easily. A few years ago, the way in which users had access to a computer system was quite complex. They had to memorize and type a lot of commands just to see the content of a disk, to copy files or to respond to a single prompt. So, a user interface based on graphics and intuitive tools was designed with a single clear aim: to facilitate interaction with the computer.

Nowadays most computers have a Graphical User Interface (GUI).

A GUI makes use a WIMP environment: Windows, Icons, Menus and Pointer. This type of interface is user-friendly, where system functions are accessed by selecting self-explanatory icons and items from menus.

Windows A window is an area of the computer screen where you can see the contents of a folder, a file, or a program. Some systems allow several windows on the screen at the same time and windows can overlap each other. The window on the top is the one which is «active», the one in use.

Icons are small pictures on the screen. They represent programs, folders, or files. For example, the Recycle Bin icon represents a program for deleting and restoring files. Most systems have a special area of the screen on which icons appear.

Menus give the user a list of choices. You operate the menu by pressing and releasing one or more buttons on the mouse.

The **Pointer** is the arrow you use to select icons or to choose options from a menu. You move the pointer across the screen with the mouse to use the object selected by the pointer.

A GUI offers graphical icons (graphic images (or intuitive symbols) representing programs, documents, an object or task), and visual indicators (as opposed to text-based interfaces), typed command labels or text navigation to fully represent the information and actions available to a user. A graphical user interface saves a lot of time: you don't need to memorize commands in order to execute an application; you only have to point and click so that its content appears on the screen.



Command Line Interface - CLI

Static, Direct, Recall.

Graphical User Interface - GUI

Responsive, Indirect, Recognition.

Natural User Interface - NUI

Evocative, Contextual, Intuition.

Double-clicking an icon opens a window that lets you work with different tools and menus. A window is a viewing area of the computer screen where you can see the contents of a folder, a file, or a program. Some systems allow several windows on the screen at the same time and windows can overlap each other. The window on the top is the one which is "active", the one in use. By using different windows you can work on several documents or applications simultaneously.

The actions are usually performed through direct manipulation of the graphical elements by the means of a drop-down menu, pop-up menu or pull-down menu (a list of options that appear below a menu bar when you click on an item). The tool for these manipulations is the pointer. The pointer is the arrow, controlled by the mouse, which allows you to move around the screen and choose options from menus. You operate the menu by pressing and releasing one or more buttons on the mouse.

UNIT 6. GRAPHICAL USER INTERFACE. NOUNS. ARTICLES. NUMERALS.

Toolbar buttons are found at the top of a window, they take you to the Home folder and others. The dock is at the bottom of the screen that gives you instant access to the things you use most. When information has to be given to the user or input by the user, a window known as a dialog box is often used. It can contain a variety of elements to gather information from the user including: text boxes, drop-down list boxes, checkboxes and command buttons. A find dialog box is used to gather information from the user about the files they wish to find. All these activities take place on a desktop (the background screen that displays icons, representing programs, files and folders-directories or containers for documents and applications).

Today, the most innovative GUIs are the Macintosh, Microsoft Windows and IBM OS/2 Warp. These three platforms include similar features: a desktop with icons, windows and folders, a printer selector, a file finder, a control panel and various desk accessories. Double-clicking a folder opens a window which contains programs, documents or further nested folders. At any time within a folder, you can launch the desired program or document by double-clicking the icon or you can drag it to another location. The three platforms differ in other areas such as device installation, network connectivity or compatibility with application programs.

Designing the visual composition and temporal behaviour of GUI is an important part of software application programming in the area of human-computer interaction. Its goal is to enhance the efficiency and ease of use for the underlying logical design of a stored program, a design discipline known as usability. Methods of user-centred design are used to ensure that the visual language introduced in the design is well tailored to the tasks. Typically, the user interacts with information by manipulating visual widgets that allow for interactions appropriate to the kind of data they hold.

A GUI may be designed for the requirements of a vertical market as application-specific graphical user interfaces. Examples of application-specific GUIs are:

- Automated teller machines (ATM)
- Point-Of-Sale touch screens at restaurants
- Self-service checkouts used in a retail store
- Airline self-ticketing and check-in
- Information kiosks in a public space, like a train station or a museum
- Monitors or control screens in an embedded industrial application which employ a real time operating system (RTOS).

The latest cell phones and handheld game systems also employ application specific touch screen GUIs. Newer automobiles use GUIs in their navigation systems and touch screen multimedia centres.

POST-READING EXERCISES

Task 2. Discuss the following questions:

1. What is a graphical user interface?
2. What is the main purpose of using graphical interface?
3. In the area of interface design which is the goal of programming in the field of human-computer interaction?
4. What is the purpose of using the methods of user-centred design?
5. Name some of the needs of GUI design.

UNIT 6. GRAPHICAL USER INTERFACE. NOUNS. ARTICLES. NUMERALS.

6. Which device recently, used GUI?
7. Is GUI used in handheld devices?
8. What are the advantages of a graphical user interface?

Task 3. Translate the following phrases into English. Use the text if necessary.

дослідницька група; робоча станція; переміщуючи на екрані; графічний інтерфейс користувача; тривимірне зображення; іновачії; мав вплив; роздільна здатність; плоский екран; середовище;

Task 4. Define the following terms:

graphical user interface, desktop, easy-to-use interface, rendering, desk accessories, display, 3D user interface, icon, browse, resolution, menu, move around the screen, move up, move down, press the key, drop-down menu, windows, buttons, icons, manipulate images, compositing, without losing quality, addition of menus, to type in all the commands, old bulletin board communications program, post messages, reply to other people's messages, letter key, number key, to be successfully marketed, drawing programs, image-editing programs, computer art, digital art.

Task 5. What do the following abbreviations stand for?

GUI, WYSIWYG, PC, OS, CPU, 3D.

Task 6. Complete this extract from a wiki entry about Windows Vista.

improvement	visual	developed	vulnerability	tools	networking	viruses	features
-------------	--------	-----------	---------------	-------	------------	---------	----------

Windows Vista is an operating system 1..... by Microsoft for use on personal computers. Development was completed on November 8, 2006; over the next three months it was released in stages to computer manufacturers, business customers, and shops. On January 30, 2007, it was released worldwide to the general public, and was made available for purchase and download direct from Microsoft. The release of Windows Vista comes more than five years after the introduction of Windows XP.

Vista contains hundreds of new and improved 2..... The most significant include an updated GUI and 3..... style called Windows Aero, improved search features, new multimedia creation 4....., and completely redesigned 5....., audio, print, and display sub-systems. However, perhaps the greatest 6..... has been to security. Windows XP suffered from 7..... to 8..... and malware, and it will be interesting to see to what extent this has been addressed in Vista.

Task 7. Choose the correct answer:

1. GUI a) graphic user interface; b) graphical user interface; c) graphical users interface;
2. OS a) operating system; b) operation system; c) operating systematisation;
3. WIMP a) windows, information, menus, pointer; b) windows, icons, memory, pointer; c) windows, icons, menus, pointer.

Task 8. Which elements of a GUI would you need to click on to carry out the following tasks?

1. To open a letter that you'd been writing in Word.
a) document icon; b) program icon.
2. To launch your internet browser software.
a) folder icon; b) program icon.
3. To move up and down through a window.
a) drop-down menu; b) scroll bar.
4. To restart or shut down your computer.
a) menu bar; b) hard drive icon.
5. To find out how much space is left on your C: drive.
a) program icon; b) hard drive icon.

TEXT B. INTERFACE WITH MENUS

Improvements arrived with the addition of menus and the use of the arrow keys to move around the screen. This is much better than having to type in all the commands.

The example to the right is of an old bulletin board communications program. People would post messages and reply to other people's messages.

Notice the list of commands in the pop-up menu in the centre. You would use the arrow keys to move up and down the list and then press the Enter key to execute the command. Various menus were usually available by using the ALT key in combination with a letter or number key.

Graphical Interface

A graphical user interface (GUI - sometimes pronounced GOO-ee) uses pictures to make it easier for the user. It is user friendly.

The use of drop-down menus, windows, buttons, and icons was first successfully marketed by Apple on the Macintosh computer. These ideas are now as standard for graphical interfaces as door knobs are for doors.

Computer graphics are pictures and drawings produced by computer. There are two main categories:

Raster graphics, or bitmaps, are stored as a collection of pixels. The sharpness of an image depends on the density of pixels, or resolution. For example, text or pictures that are scaled up – that is, made bigger – may show jagged edges, paint and photo – editing programs like Adobe Photoshop focus on the manipulation of bitmaps. Popular raster formats are JPEG, GIF and TIFF.

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Vector graphics represent images through the use of geometric objects, such as lines, curves and polygons, based on mathematical equations. They can be changed or scaled without losing quality. Vector data can be handled by drawing programs like Adobe Illustrator, Corel Draw or Macromedia Freehand. EPS is the most popular file format for exchanging vector drawings.

Almost all computer users use some form of graphics. Home users and professional artists use image-editing programs to manipulate images. For example, you can add filters (special effects) to your favourite photos, or you can composite images. Compositing is combining parts of different images to create a single image. Graphic artists and designers use drawing programs to create freehand drawings and illustrations for books or for the Web.

Businesspeople use presentation graphics to make information more interesting visually – graphs and diagrams can be more effective ways of communicating with clients than lists of figures. Electrical engineers use CAD (Computer Aided Design) software to develop, model and test car designs before the actual parts are made. This can save a lot of time and money. CAD is also used in the aerospace, architecture and industrial sector to design everything from airplanes and buildings to consumer products. Designers start a project by making a wireframe, a representation showing the outlines of all edges in a transparent drawing. They then specify and fill the surfaces to give the appearance of a 3-D solid object with volume. This is known as solid modelling. Next, they add paint, colour and filters to achieve the desired “look and feel”: this is called texturing the object. Finally, they render the object to make it look real. Rendering includes lighting and shading as well as effects that simulate shadows and reflections.

Computer art, or digital art, is used in adverts and TV programmes. Artists and scientists use special graphic applets to create amazing fractals. Fractals are geometrical patterns that are repeated at small scales to generate irregular shapes, some of which describe objects from nature. Government agencies use GIS (Geographic Information Systems) to understand geographical data and then plan the use of land or predict natural disasters. Cartographers use GIS to make detailed maps. Animators use computer animation software to create animated cartoons or add effects in movies and video games.

Task 9. Answer the questions

1. What is the difference between raster graphics and vector graphics?
2. Which graphics file formats are mentioned?
3. What is compositing?
4. What does CAD stand for?
5. What are the benefits of using graphics in the car industry?
6. What type of graphics software is used to make maps or 3-D models of the Earth?
7. Who uses computer animation? How?

Task 10. Match the words (1-6) with their definitions (a-f).

- | | |
|---------------|--|
| 1. resolution | a. special effects that can be applied to pictures |
| 2. jagged | b. a technique that generate realistic reflection shadows and highlights |
| 3. filters | c. geometrical figures with special properties |
| 4. wireframe | d. irregular or uneven |
| 5. rendering | e. the number of pixels in an image |
| 6. fractals | f. the drawing of a model by using features like edges or control lines |

Task 11. Match the words 1- with the words a- to make up the word combinations

- | | |
|--------------|-------------|
| 1. arrow | a. command |
| 2. drop-down | b. message |
| 3. execute | c. friendly |
| 4. reply | d. menu |
| 5. user | e. key |

Task 12. Work in pairs. Student A chooses a task from the list (1-6) and describes it. Student B chooses the most appropriate graphics software for the task (a-f) and gives reasons for his or her choice. Swap roles.

1. To edit and retouch photos
2. To create illustrations and drawings for a magazine
3. To prepare slideshows for training sessions or conferences
4. To make mechanical designs and architectural plans
5. To create dynamic simulation and special effects for films, TV, advertisements and games
6. To analyse geographic data and make maps

Task 13. Find definitions in the text of these items.

- | | | |
|--------------|------------------|------------|
| 1. Menu | 3. Window | 5. Pointer |
| 2. Interface | 4. Active window | 6. Icon |

1. Most computers have a Graphical User Interface. The ____ is the connection between the user and the computer. The most common type of GUI uses a WIMP system, WIMP stands for Windows, icon, Menu (or Mouse), Pointer (or Pull-down/Pop-up menu).
2. A ____ is an area of the computer screen where you can see the contents of a folder, a file, or a program. Some systems allow several windows on the screen at the same time and windows can overlap each other. The window on the top is the one which is 'active', the one in use.
3. ____ are small pictures on the screen. They represent programs, folders, or files. For example, the Recycle Bin icon represents a program for deleting and restoring files. Most systems have a special area of the screen on which icons appear.
4. ____ give the user a list of choices. You operate the menu by pressing and releasing one or more buttons on the mouse.
5. ____ is the arrow you use to select icons or to choose options from a menu. You move the pointer across the screen with the mouse. Then you click a button on the mouse to use the object selected by the pointer.

GRAMMAR REVIEW**NOUNS**

Proper Nouns	Common Nouns		
	Countable Nouns	Uncountable Nouns	
Tim Baker	a boy (two boys)	bread	cotton
Europe	a man (three men)	water	tea
Great Britain	a table (four tables)	love	peace
London	a city (ten cities)	equality	ignorance
the Grand (Hotel)	people	clothing	leisure
Oxford Street	scissors	furniture	equipment
Penny Lane		permission	activity
the Thames		length	news
the British Museum			
the Daily News			

Countable Nouns	Uncountable Nouns
a brick – цегла (одна)	brick – цегла (будівничий матеріал матеріал)
a chocolate – шоколадна цукерка	chocolate – шоколад
a fire – вогонь	fire – вогонь
a grammar – граматика (підручник)	grammar – граматика (наука)
a hair – волосина	hair – волосся
an iron – праска	iron – залізо
a justice – суддя	justice – справедливість
a light – вогник, лампа	light – світло
a paper – газета, документ	paper – папір
a play – п'єса	play – гра
a time – раз	time – час
a wood – ліс	wood – дерево (деревина)
a work of art – витвір мистецтва	work – робота
a glass, glasses – склянка, окуляри	glass – скло
a grass – травинка	grass – трава

They ordered three beers. – Вони замовили три пива. (*три склянки*)

This is a very good coffee. – Це дуже хороша кава. (*сорт кави*)

PLURAL OF COUNTABLE NOUNS

Singular number	Plural number
Основа + закінчення -s	
a boy, a table, a trick, a whiff, a smith, a railway	boys, tables, tricks, whiffs, smiths, railways
Основа + закінчення -es після -s, -ch, -tch, -sh, -ss, -x, -o	
a bench, a bus, a glass, a bush, a brush, a match, a box, a potato	benches, buses, glasses, bushes, brushes, matches, boxes, potatoes
Кінцева -у (після приголосного) змінюється на -ies	
an army, a country, a fly, a lady	armies, countries, flies, ladies
Кінцева -f(-fe) змінюється на -ves	
a calf, a half, a knife, a leaf, a shelf, a wife, a wolf	calves, halves, knives, leaves, shelves, wives, wolves
Compound Nouns	
a manservant, a schoolgirl, a woman-teacher, a mother-in-law, a passer-by, a man-of-war, a forget-me-not	menservants, schoolgirls, women-teachers, mothers-in-law, passers-by, men-of-war, forget-me-nots

IRREGULAR PLURALS

Singular number	Plural number
a man, a woman, a foot, a tooth, a goose, a mouse, a louse, an ox, a child	men, women, feet, teeth, geese, mice, lice, oxen, children
a radius, a corpus, a formula, a bacterium, a crisis, a criterion, an index, a bureau	radii (или radiuses), corpora, formulae (или formulas), bacteria, crises, criteria, indices, bureaux
a deer, a sheep, a salmon, a trout, a cod, an aircraft, a spacecraft, a crossroads, a means, a series, a species, a works	deer, sheep, salmon, trout, cod, aircraft, spacecraft, crossroads, means, series, species, works

UNIT 6. GRAPHICAL USER INTERFACE. NOUNS. ARTICLES. NUMERALS.

Special Cases	
Only Singular number	Only Plural number
advice, information, news, measles, mumps physics, knowledge, furniture, luggage, gymnastics, athletics, bowls, billiards, dominoes, darts, draughts	annals, archives, arms (weapons), belongings, clothes, cattle, poultry, scissors, dregs, earnings, wages, goods, trousers, binoculars, shorts, shoes, gloves, pyjamas, glasses, spectacles, earrings, socks, outskirts, premises, tights, remains, pliers, riches, surroundings, thanks, the tropics, whereabouts, people, police, stairs, (good)looks,

PLURAL FORMS

hat – hats	bus – buses	glass - glasses
boy – boys	box – boxes	bench - benches
country – countries	brush – brushes	match - matches

hero – heroes	але:	piano - pianos
potato – potatoes		photo - photos
volcano – volcanoes		stereo - stereos
tomato – tomatoes		kilo - kilos
echo – echoes		radio - radios

thief – thieves	wife – wives	але:	roof – roofs	proof - proofs
leaf – leaves	shelf – shelves		belief – beliefs	serf - serfs
knife – knives	wolf – wolves		chief – chiefs	safe - safes
life – lives	half – halves		gulf – gulfs	cliff - cliffs

means	a means of transport – various means of transport
series	a television series – many television series
species	a species of birds – different species of birds
crossroads	this crossroads – these crossroads
works (factory)	a gas works – two gas works

Тільки в однині				
linen	progress	money	sugar	behaviour
furniture	business	scenery	bread	evidence
knowledge	information	wood	beef	research
advice	trouble	weather	macaroni	trouble
luggage	accommodation	sand	salt	music
baggage	equipment	damage	chaos	spaghetti
permission	traffic	work	justice	luck
rubbish	hair	food	machinery	jewellery

UNIT 6. GRAPHICAL USER INTERFACE. NOUNS. ARTICLES. NUMERALS.

news, mumps, measles, economics, mathematics, physics, statistics billiards, dominoes, darts, bowls gymnastics, athletics politics, tactics, optics, ethics

Тільки в множині					
sights	riches	savings	earnings	lodgings	clothes
goods	people	outskirts	stairs	poultry	trousers
sweets	police	slums	scissors	cattle	jeans
arms	contents	wages	spectacles	congratulations	tights

Як в однині так і в множині				
family	crowd	congress	company	clergy
team	jury	government	crew	gentry
group	public	committee	board	
staff	army	audience	delegation	

THE POSSESSIVE CASE

Singular number	Plural number
Proper Nouns	
Tim's dog, Alice's cat, James's mother, St. Paul's, St. Mary's, Mr. Baker's house	the Bakers' house
Animate Nouns	
a girl's hat, the boy's dog, a lady's handbag, a man's suit, a child's toy, a cat's tail	a girls' school, the boys' dogs, a ladies' room, men's suits, children's books, cats' tails
Inanimate Nouns	
a minute's walk, a day's work, a week's stay, today's conference, yesterday's paper, the company's office, the government's proposal, my family's welfare	a five minutes' walk, a three days' trip, a few weeks' stay, the companies' offices, the governments' proposals, my families' welfare

NOUNS DETERMINERS

Nouns Determiners	Countable Nouns		Uncountable Nouns
	Singular number	Plural number	
The Indefinite Article	a boy, an apple		
The Definite Article	the boy	the boys	the tea
The Possessive Pronoun	my apple	my apples	my tea
The Demonstrative Pronoun	this boy, that apple	these boys, those apples	this tea, that money
Question Words	What boy? Which apple? Whose book?	What boys? Which apples? Whose books?	What tea? Which money? Whose money?
The Quantifiers		some boys, any boys many boys, few boys a few boys, more boys most boys, a lot of boys	some tea, any tea much tea, little tea a little tea, more tea most tea, a lot of tea

SOME AND ANY; SOME/ ANY + -ONE/ -BODY/ -THING/ -WHERE

Some and any позначають кілька, деяка кількість. Можуть вживатися з обчислюваними (у множині) і необчислювальними іменниками.

some/somebody/someone/somewhere	в стверджувальних реченнях; у проханнях і пропозиціях
any/anybody/anyone/anything/ anywhere	в заперечувальних реченнях; в питальних реченнях; в реченнях з <i>hardly, barely, scarcely, without</i> ; в значенні «будь-який, який-небудь»
no/none/nobody/no one/nothing/ nowhere	в стверджувальних реченнях для вираження заперечення

MUCH, MANY, LITTLE, FEW, A LOT, PLENTY

many, few, a few з обчислювальними іменниками у множині	many/few/a few problems
much, little, a little з необчислювальними	much/little/a little money/noise

іменниками	
------------	--

GRAMMAR EXERCISES

NOUNS

Exercise 1. Write plural form

- | | | |
|--------------|-------------|---------------|
| 1. city- | 7. roof- | 13. sunshade- |
| 2. headline- | 8. mouse- | 14. trout- |
| 3. photo- | 9. tooth- | 15. hoof- |
| 4. couch- | 10. knife- | 16. radio- |
| 5. dish- | 11. potato- | 17. medium- |
| 6. tray- | 12. calf- | 18. wife- |

Exercise 2. Countable and for uncountable nouns. Underline the correct word.

1. She has had love/a love horses since she was a little girl.
2. I can't sleep if I drink coffee/a coffee at night.
3. I went skiing for the first time this year; it's experience/an experience that I'll never forget.
4. I've just heard a/some very good news about Emma and Bill.
5. Lisa's got a / an towel.
6. Ana's got a / some rucksack.
7. Lucia's got an / some insect repellent.
8. Javi hasn't got some / any sunglasses.
9. Antonio's got a / some swimming costume.
10. Ignacio hasn't got any / some sandwiches.

Exercise 3. Which sentence is right in each pair?

1. Get some glass out for dinner/ Get some glasses out for dinner.
2. He visited lots of capital in Europe/ He visited lots of capitals in Europe.
3. I bought some wood/ I bought some woods.
4. I can't stand the bad language on TV/ I can't stand the bad languages on TV.
5. I did lots of revision before my test/ I did lots of revisions before my test.
6. I got some interest from the bank/ I got some interests from the bank.
7. I like to have some fire in my house/ I like to have a fire in my house.
8. I walked so far I had to put some plaster on my feet/ I walked so far I had to put some plasters on my feet.
9. I watched some drama last weekend/ I watched some dramas last weekend.
10. I wrote my experience on my CV/ I wrote my experiences on my CV.
11. Some light came through the window/ Some lights came through the window.
12. Some life was lost/ Some lives were lost.
13. The teacher made me do some exercise for homework/ The teacher made me do some exercises for homework.
14. Watch some television/ Watch some televisions.

UNIT 6. GRAPHICAL USER INTERFACE. NOUNS. ARTICLES. NUMERALS.

15. We bought 200 tons of iron/ We bought 200 tons of irons.

Exercise 4. Choose the correct form of the verb.

1. Economics is/are my favourite subject.
2. The trousers he bought for her doesn't/ don't fit her.
3. The police want/wants to interview men about the robbery.
4. Physics was/were my best subject at school.
5. Can I borrow your scissors? Mine isn't/aren't sharp enough.
6. The news wasn't/weren't as bad as we had expected.
7. Where does/do your family live?
8. Four days isn't/aren't long enough for a good holiday.
9. He can't find his binoculars. Do you know where they're/it is?
10. Do you think the people is/are happy with the government?
11. Does/do the police know how the accident happened?
12. She doesn't like hot weather. Twenty-eight degrees is/are too warm to for her.
13. The staff at school is/are not happy with their new working conditions.
14. 30000 pounds was/were stolen in the robbery.
15. Two years is/are a long time to be without job.

SOME, ANY, MUCH, MANY, A LOT, FEW, A FEW, LITTLE, A LITTLE

Exercise 5. Put some or any into the gaps.

1. Not all of the children went outside. _____ of them stayed in the classroom.
2. I have to go to the supermarket. There isn't _____ coffee left.
3. How _____ loaves of bread do we need?
4. Would you like _____ milk? Yes please. Just _____.
5. The land is not suitable for agriculture so _____ of the food is imported.
6. There are only _____ people interested in the subject.
7. How _____ of the students have a computer at home?
8. Can you tell me _____ about your experience in London?

Exercise 6. Fill in something/anything - somebody/anybody - somewhere/anywhere

1. She said but I didn't understand anything.
2. Has found my blue pencil? No, I'm sorry.
3. Would help me, please? Yes, I can help you.
4. Have you got to eat? No, I haven't.
5. Tom, can you give me to drink, please?
6. Is there in the house? No, it's deserted.
7. Do you know about London transport? No, I don't.
8. What's wrong? "There's in my eye."
9. Do you like to drink? Yes, please.

UNIT 6. GRAPHICAL USER INTERFACE. NOUNS. ARTICLES. NUMERALS.

10. has broken the window. I don't know who.

Exercise 7. Use much or many. Mind countable and uncountable nouns.

- 1) There isn't... milk left in the fridge.
- 2) You shouldn't eat so sweets.
- 3) My friend doesn't eat fruit.
- 4) They don't know about the history of their country.
- 5) I don't have.... time to practice basketball.
- 6) There aren't ... people in the shops today?
- 7) There is not.... homework to do.
- 8) How.... of you are coming to the party?
- 9) We don't have oranges and we don't have olive oil.
- 10) There wasn't..... dust in that house, was it?

Exercise 8. Translate the sentences into English.

1. Його поради завжди бувають такими переконливими (convincing). Чому ти ніколи їх не дотримуєшся? 2. Яка недобра (nasty) погода! У таку дощову погоду краще сидіти вдома. 3. Вона має хороші успіхи в англійській, 4. Я здивований (be surprised), що вона повірила цим дивним новинам. Боюся, вони є недостовірними. Хто їх їй повідомив? 5. Мені здається, ці ваги зламані. 6. Вчора я поклав сюди гроші. Де вони? Я не можу їх знайти. 7. Я вважаю, що приміщення для нашого магазину цілком підходить. 8. Мені не подобаються ці джинси. Мені здається, та пара джинсів була кращою. 9. Екіпаж був готовий виконати (fulfil) наказ капітана. 10. Критерії часто змінюються.

ARTICLES

REVISION OF THE USE OF THE ARTICLES (IN TABLES)
CLASSIFICATION OF NOUNS

Common Names				Proper Names	
<i>countable nouns</i>		<i>uncountable nouns</i>		<i>Names of People</i>	<i>Geographical Names</i>
<i>concrete</i>	<i>abstract</i>	<i>concrete (mass nouns)</i>	<i>abstract</i>	Rebecca Benjamin Britten Colonel Townsend	Lake Huron Mount Everest the River Thames
a tree	an idea	glass	love		
a house	an offer	iron	fear		

Functions of the Indefinite Article

Classifying	Generic	Numeric	Aspective
<i>The article shows that the noun belongs to a certain class of things.</i>	<i>The article shows a typical member of a certain class of things.</i>	<i>The article shows its original meaning of the numeral 'one'.</i>	<i>The article shows a special aspect of the notion expressed by an uncountable abstract noun.</i>
This flower is a rose. They bought her a book as a present.	A rose is a flower. (= every rose is a flower)	Henry gave Lydia a big red rose. An apple a day keeps the doctor away.	With that rose he offered her an unusual love. It was an elation that seemed to give her wings.

Functions of the Definite Article

<i>Specifying (individualizing) function</i>	<i>Generic function</i>
<i>The article shows a particular object that is singled out from the whole class of these objects.</i>	<i>The article shows that the noun means the whole class of things it denotes.</i>
The book I need is on the table. He was eating the bread that the servant had brought him the day before.	The book is a great source of knowledge. Nobody knows when the violin was first made.

Don't confuse the articles in the generic function

a	the
<i>The article shows a typical member of a certain class of things.</i>	<i>The article shows that the noun means the whole class of things it denotes.</i>
A writer is someone who writes books, stories etc., especially as a job. (gives a definition of any writer's job)	Should the writer be impartial while writing his books? – (implies the idea of the writer's responsibility)

The use of articles with names of people

	Definite Article indicates:	Indefinite Article indicates:	Zero Article indicates:
1	<u>the whole family as a unit</u> <ul style="list-style-type: none"> <u>The Forsytes</u> usually gathered for weddings and funerals. My visit was a surprise for <u>the Kellogans</u>. Note: the proper name is used in the plural.	<u>one member of the family</u> <ul style="list-style-type: none"> Fleur acted like <u>a</u> real <u>Forsyte</u>. You just look at him and immediately understand that he is <u>a</u> <u>Weasley</u>. 	<u>a person's name or surname</u> <ul style="list-style-type: none"> One of the wings in the Tate Gallery houses hundreds of <u>William Turner's</u> pictures. <u>Bill's</u> younger sister, <u>Penny</u>, was in <u>Henry's</u> new class.
2	<u>a member of somebody else's family</u> <u>The mother</u> asked <u>the son</u> to be more polite to his	<u>an unknown person</u> <ul style="list-style-type: none"> Robert, here is <u>a</u> <u>Mr. Blake</u> to see you. Note: the name of the person	<u>a member of one's own family</u> <ul style="list-style-type: none"> <u>Mother</u> has some definite plans for the coming Sunday. It's up to <u>Aunt</u> to decide what

UNIT 6. GRAPHICAL USER INTERFACE. NOUNS. ARTICLES. NUMERALS.

	grandparents.	can be preceded by the attribute 'certain' = 'печный', • Father, there is <u>a certain Mr. Butler</u> waiting for you in the hall.	to do in this situation. Note the word combinations like 'mother and daughter', 'father and son', e.g. • <u>Father and daughter</u> looked at each other with affection.
3	<u>that the name is clear from the situation</u> (often with a limiting attribute) • <u>The Gloria of 26</u> was still <u>the Gloria of 20</u> . • You are not <u>the Andrew Manson</u> <i>I married</i>	<u>that a proper name is used as a common noun</u> • This man doesn't know <u>a Rembrandt</u> from <u>a Rubens</u> . (pictures belonging to the brush of Rembrandt or Rubens) • He behaves like <u>a modern Monte Christo</u> .	<u>a person's position, rank, family relationship or title</u> • It's elementary, <u>Doctor Watson</u> ! • <u>Colonel FittsPatrick</u> never hesitated either on the battle field or in the ballroom. • <u>Aunt Polly</u> was very strict with Tom. • <u>Mr. Hardy</u> will be very pleased with you, John. <u>President Kennedy</u> was assassinated in 1963.
4	<u>a person's profession</u> <u>The painter William Turner</u> is one of the most honoured artists in England. Note:	<u>an unusual aspect of a person's character, emotional state or behaviour</u> It was <u>a very different John</u> Mary had known seven years before.	<u>age or personal qualities</u> modified by the adjectives young, old, poor, dear, honest, lazy, little, ugly, silly, pretty • <u>Little Charles</u> was made to start work when he was twelve. • <u>Honest Abe</u> was the name many American people used to refer to Abraham Lincoln.
5	<u>a person's permanent feature of character or quality</u> • Paul understood that he would miss <u>the beautiful Sonya</u> . • You can always rely on <u>the cautious George</u> .		

The use of articles with geographical names

		Zero Article	Indefinite Article	Definite Article
1	Continents	Europe; Asia; Antarctica <i>modified by some descriptive attributes</i>	•	<i>limitation clear from the context</i> , e.g. It was <u>the Europe</u> of 1600s.

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		<i>in pre-position*</i> , • North America Central Asia		
2	Countries	<u><i>is used if the names consist of one word</i></u> Ukraine; England; Poland	<u><i>indicates some unusual qualities or mood in the given situation</i></u> It was <u>a</u> new Italy Marko did not recognize.	<u><i>is used if the names consist of more than one word</i></u> • the United States of America • the United Emirates • the United Kingdom <u><i>indicates traditional use</i></u> • the Argentine (but Argentina) • the Netherlands • (the) Lebanon; (the) Congo; (the) Senegal; (the) Kameroun; (the) Sudan
3	Regions and provinces	Kharkiv Region,		<u><i>indicates traditional use</i></u> • the Lake District • the Caucasus; the Crimea • the Ruhr; the Tyrol; the Riviera; the Transvaal; the Saar
4	Cities, towns, villages	• London (city) • Broadstairs (town) • Middlemead (village)	<u><i>to show some unusual qualities or mood in the given situation</i></u> It was <u>a</u> different Paris unknown to him.	1. <i>clear from the situation</i> , usually with a limiting attribute, e.g. It was not <u>the</u> France of his youth. 2. <i>with an 'of-phrase'</i> , e.g. the city of Chester; the village of Amberley 3. <i>an exception</i> - the Hague
5	Mountains, mountain passes and islands	<u><i>separate mountains, peaks and islands</i></u> • Snowdon • Mount Everest • Cyprus		<u><i>mountain chains and groups of islands</i></u> • the Rocky Mountains • the Bahamas • the Saint Gottard Pass • the Isle of Man (of-phrase)
6	Lakes	<u><i>with the word 'lake'</i></u> Lake Michigan; Silver Lake		<u><i>without the word 'lake'</i></u> the Michigan, the Windermere
7	Oceans, seas, rivers, straights, channels, canals, waterfalls,			• the Indian Ocean • the North Sea • the Trent (a river in England) • the Magellan Straits (the Strait of Magellan) • the English Channel

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	<i>bays, gulfs</i>			<ul style="list-style-type: none"> the Panama Canal the Niagara Falls North Bay (but <u>the</u> San Francisco Bay) the Gulf of Mexico
8	<i>Peninsulas and capes</i>	<ul style="list-style-type: none"> Hindustan Labrador Cape Horn Cape Province 		<p><u>with the word 'peninsula'</u></p> <ul style="list-style-type: none"> the Hindustan Peninsula <p><u>with 'of – phrase'</u> (traditional use)</p> <ul style="list-style-type: none"> the Cape of Good Hope
9	<i>Deserts</i>			the Sahara Desert
10	<i>Names traditionally used in the plural</i>			<ul style="list-style-type: none"> the Midlands the Netherlands the Yorkshire Forests
11	<i>Streets, squares, parks</i>	<ul style="list-style-type: none"> Baker Street Drury Lane Brown Close Sunset Boulevard Piccadilly Circus Hyde Park 		<p><u>traditional use</u></p> <ul style="list-style-type: none"> the Strand (in London) the High Street The Main Street the Mall the Plaza San Marco

* *The descriptive attributes that usually modify geographical names in pre-position are:* northern, southern, eastern, western, central, minor, south-west (etc.), Latin, ancient, old, new, industrial, medieval, modern,

The use of articles with other proper names

		Zero Article	Definite Article
1	<i>Buildings, bridges</i>	<ul style="list-style-type: none"> Waterloo Bridge Westminster Abbey 	<p><u>traditional use</u></p> <ul style="list-style-type: none"> the Tower (of London) the White House the Old Bailey (the Crown Court in the UK)
2	<i>Airports, railway and bus stations,</i>	<ul style="list-style-type: none"> Heathrow Airport Victoria Station 	
3	<i>Hotels, clubs, restaurants, cafes, pubs</i>		<ul style="list-style-type: none"> the Hilton; the Green Hotel the National Tennis Club the Restaurant Bretagne the Café de la Paix the Headless Woman

4	<i>Museums, picture galleries, monuments</i>		<ul style="list-style-type: none"> • the National Gallery • the British Museum • the Washington Monument
5	<i>Concert halls, theatres, cinemas</i>		<ul style="list-style-type: none"> • the Albert Hall • the Old Vic Theatre • the Odeon Cinema
6	<i>Ships and boats</i>		<ul style="list-style-type: none"> • The Titanic • The Seagull
7	<i>Newspapers and magazines</i>		<ul style="list-style-type: none"> • The Daily Mirror • The Financial Times • The Teens; The Vogue
8	<i>Names of historical events</i>		<ul style="list-style-type: none"> • the Paris Commune • the Russian Revolution • the Industrial Revolution • the Napoleonic Wars • the gold rush
9	<i>Parties and organizations</i>		<ul style="list-style-type: none"> • the Conservative Party • The League of nations • the NATO • the European Union

Exercise 9. Fill in a, an, the or – (nothing).

1. She spent ... adventure holiday in the summer in the heart of Africa.
2. Although it was deep night, he could find his way through ... woods.
3. I'm sure I'm doing ... right thing.
4. My office is on ... third floor of ... old building.
5. A career in this field can be ... hard work but it's rewarding.
6. ... most trains start badly on cold mornings.
7. Traffic jams are almost unavoidable in ... morning rush hour.
8. I had ... sandwich in ... school canteen for ... lunch today.
9. ... company wants us to pay for ... goods in ... advance.
10. Mary lives in ... large town in ... middle of London but she wants to live in ... country.
11. The Department of Linguistics at West Point is located on the west bank of ... Hudson River, north of California.
12. ... Sahara, the world's largest desert, extends over eight million square kilometres.
13. ... Pacific Ocean keeps ... San Francisco cool.

Exercise 10. Fill in the articles in the proverbs if necessary.

1. ... apple ... day keeps ... doctor away.
2. ... appetite comes with eating.
3. ... good beginning makes ... good ending.
4. ... bird in ... hand is worth two in ... bush.
5. Among ... blind ... one-eyed man is king.
6. ... brevity is ... soul of wit.
7. ... cat has nine lives.
8. ... charity begins at ... home.
9. ... clothes make ... man.
10. ... curiosity killed ... cat.

Exercise 11. Fill in a, an, the or – (nothing)?

1. _____ diplomat is _____ person who can tell you to go to hell in such a way that you actually look forward to _____ trip.
2. _____ dog is _____ only thing on earth that loves you more than you love yourself.
3. _____ Americans like _____ fat books and _____ thin women.
4. _____ optimist is someone who thinks _____ future is uncertain.
5. _____ equality is _____ lie - _____ women are better.
6. _____ birds do it; _____ bees do it; even _____ educated fleas do it. Let's do it. Let's fall in _____ love.
7. I always pass on _____ good advice. It is _____ only thing to do with it. It is never any use to oneself.
8. Remember that as _____ teenager you are at _____ last stage in your life when you will be happy to hear that _____ phone is for you.
9. Save _____ water, shower with _____ friend.
10. When I was _____ boy of fourteen, my father was so ignorant I could hardly stand to have _____ old man around. But when I got to be twenty-one, I was astonished at how much he had learned in seven years.
11. When I was born, I was so surprised that I couldn't talk for _____ year and _____ half.
12. California is _____ great place – if you happen to be _____ orange.

Exercise 12. Translate the following sentences:

1. Цього ранку я купив газету і журнал. Газета в моєму портфелі, але я не знаю, куди я поклав журнал.
2. На вулиці припарковані дві машини: синя і сіра. Синя належить моїм сусідам; я не знаю, хто власник сірої.
3. - Ви часто ходите в кіно? - Ні, не дуже часто. Але я дивлюся багато фільмів по телевізору.
4. - Що Ви їли на сніданок сьогодні вранці? - Нічого. Я ніколи не снідаю.
5. - Ми витратили всі наші гроші, бо ми зупинилися в найдорожчому готелі міста. - Чому ви не зупинилися у більш дешевому готелі?
6. Це був дуже жаркий день. Він був найспекотнішим днем у році.

NUMERALS

Cardinals(cardinal numerals/numbers)	Ordinals(ordinal numerals/numbers)
<ul style="list-style-type: none"> - indicate exact number, used in counting <p>Morphological composition:</p> <ul style="list-style-type: none"> - simple: 1-12, 100, 1,00, 1,000,000 - derivatives:13-19 (-teen) 20-90 (-ty) - compound (composite): 21-29 31- 39 etc. <p>Note: a hundred/one hundred a thousand/one thousand a million/one million</p> <p>collective a dozen /one dozen (12)</p> <p>numbers a score / one score (20) two dozen (24) a gross/one gross (12 dozen)</p> <p>Functions:</p> <ul style="list-style-type: none"> - subject: <i>Three</i> plus three is six. - object: I bought <i>four</i> (of them). - predictive: He is <i>five</i>. - Attribute: There were <i>four</i> men in the room. - Adverb. modifier: I get up at <i>seven</i>. <p>Note: used instead of ordinals in postposition: <i>Book Four</i> but the fourth book, <i>Act Three</i> but the third ,net Unit 5, lecture 3, line 6, paragraph 2, Chapter X, No. (number) 49 = # 49 (US English), Apartment 12, World War II(but the Second World War)</p>	<ul style="list-style-type: none"> - Show the order of persons or things in a series <p>Morphological composition: (the same)</p> <ul style="list-style-type: none"> - Except the first three: 1st (the first), 2nd (the second), 3^d (the third) are formed from cardinal numerals by means of the suffix <i>-th</i>. <p>Mind the pronunciation: 20 – twenty but the 20ieth ['twentiθ] 30 – thirty but the 30ieth, etc.</p> <p>Note: normally they are used with the definite article: This is <i>the second</i> floor. But can be used with the indefinite article when they do not show a definite order of persons or things in a series: The bell rang once, then <i>a second</i> time, then <i>a third</i>.</p> <p>Functions:</p> <ul style="list-style-type: none"> - Attribute: This is my <i>first</i> <u>dance</u>. - Subject: Then advancing towards us came a <i>fifth</i>. - Predicative: So I <u>might</u> as well <u>be</u> <i>the first</i>. - object: She noted a scar on his cheek, another ... and <i>a third</i> that ran ...

DATES

731	<i>seven hundred (and) thirty-one</i>
1900	<i>nineteen hundred</i>
1904	<i>nineteen [ou] four</i>
2000	<i>two thousand</i>
2009	<i>two thousand nine</i>
15 th , May 1948	<i>The fifteenth of May, nineteen forty-eight.</i>

UNIT 6. GRAPHICAL USER INTERFACE. NOUNS. ARTICLES. NUMERALS.

May 15 th , 1948 May 15, 1948	<i>May the fifteenth, nineteen forty-eight.</i>
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THE FOUR OPERATIONS

Addition	$4 + 5 = 9$	<i>We add four to five and get nine. Four and five equals nine Four and five is (are) nine.</i>
Subtraction	$9 - 4 = 5$	<i>We subtract four from nine and get five. Four from nine is five.</i>
Multiplication	$4 \times 5 = 20$	<i>We multiply four by five and get twenty. Four times five is twenty.</i>
Division	$20 : 4 = 5$	<i>We divide twenty by four and get five.</i>

FRACTIONAL NUMERALS

Common Fractions

1/3 – a (one) third	2/3 ton – two thirds of a ton
1/8 – an (one) eighth	3/4 kilometre – three quarters of a kilometre
1/2 – a (one) half	1/2 ton – half of a ton
1/4 – a (one) quarter	2 1/2 tons – two and a half tons <i>or</i> two tons and a half
2/3 – two thirds	4 1/3 tons – four and a third tons <i>or</i> four tons and a third
3/5 – three fifths	1 1/2 hours – one and a half hours <i>or</i> one hour and a half
5/6 – five sixths	1 1/3 pounds – one and a third pounds <i>or</i> one pound and a third

Decimal Fractions

0.1	nought [no:t] point one	1.25 tons	one point two five tons
0.01	nought point nought one	23.76 tons	two three point seven six tons <i>or</i> twenty-three point seven six tons
0.25	nought point two five	14.105	one four (<i>or</i> fourteen) point one nought five

Extra information

0		0; zero
1/2		a half; one half
1/3		a third; one third
3/4		three fourths
1/2bh		a half of the product <i>bh</i>
$u = \frac{1}{1+x^2}$		<i>u</i> is equal to the ratio of divided by one plus <i>x</i> square
0.02		0 point 0 two
38.75		thirty-eight point seventy five
+		plus
-		minus
x		multiplication sign
:		sign of division

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$=$		sign of equality
$()$		round brackets
$[]$		square brackets
$a=b$		a is equal to b; a equals b;
$a\approx b$		a approximately equals b
$a>b$		a is greater than b
$a<b$		a is less than b
$x=-x$		x approaches infinity
$a\cdot b=c$		a multiplied by b equals c
$a/b=c$		a divided by b equals c a divided by b is c the ratio of a to b is c c is equal to a divided by b
$a+b=c$		a plus b is c, a plus b are equal to c a plus b is equal to c
$a-b=c$		a minus b is equal to c
x^2		x square, x squared; x to the second power; x raised to the second power; the square of x; the second power of x
y^3		y cube; y cubed; y to the third power
z^{-12}		z to the minus twelfth power
∞		infinity
C		constant
$\sqrt{a}=b$		the square root of a is (equals) b
$\sqrt[5]{a^2}$		the fifth root of a square
a'		a prime
a''		a second prime a double prime a twice dashed
a_1		a sub one a first
a_m		a sub m
f'_c		f prime, sub c f sub c, prime
\ddot{x}		second derivative of x
$\frac{dx}{dy}$		first derivative of x with respect to y
$y_m=f(x)$		y is function of x y sub m is a function y x

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\int_m^n		integral of.... from m to n integral of between limits n and m
$v = u$ $\sqrt{\sin^2 i - \cos^2 i}$ $= u$		v is equal to u; square root of sine square i plus cosine square i is equal to u
%		per cent
0.52 %		point five two per cent zero point five two of one per cent
45 ⁰ C		forty five degrees Centigrade

EXERCISES

Exercise 13. Say aloud the following numerals:

1, 1st, 2, 2nd, 3, 3^d, 4, 4th, 40, 40th, 5, 5th, 8, 8th, 9, 9th, 10, 10th, 12, 12th, 20, 20th, 100, 100th.

Exercise 14. Are you good at maths?

a) Do the following exercise. Fill in the gaps with correct words and numerals.

	.....		an hour
	.....		a minute
There are	.....	in	a day
	.....		a week
	.....		a month
	.....		a year

b) Do the following sums.

3+4 =	12+13=	19-4=	195- 70=
5+6=	14+15=	18- 5=	280-52=
7+2=	16+17=	17 – 6=	467 – 13=
8+9=	18+19=	16 – 8=	748 – 23=
2x9=	9x3=	54: 6 =	72:8 =
3x8=	8x4=	18: 2=	45: 9=
4x7=	7x5	21: 7=	90: 6=
5x6=	6x6=	15: 5=	24:3=
¼+1/4=	1/3+2/3=	69: 3=	3/8 + 1/8 =
1/5 + 1/5=		1/8+3/4=	

Exercise 15. Read the following years aloud.

1066 1778 1804 1918 2005 63BC 1132 1559 55BC 1874 1246 925 718 1963 1799 1666
2000

Exercise 16. Practise reading the following dates aloud.

18.4.94 4.9.77 24.8.63 7.7.43 22.03.55 31.05.87 (GB)
4/18/94 9/4/77 8/24/63 7/7/43 3/22/55 5/31/87 (US)

Exercise 17. Speak about days and months.

Model: Sunday is the first day of the week.

March is the third month of the year. It's the first spring month. It has 31 days.

Monday, Tuesday, Wednesday, Thursday, Friday, Saturday

January, February, March, April, May, June, July, August, September, October, November, December.

Exercise 18. Speak about days and months.

1. В моїй групі дванадцять студентів.
2. Десять студентів брали участь у конкурсі. Троє з них отримали нагороди.
3. Скільки футів в одній милі? - В одній милі 5280 футів.
4. П'ятдесят шість робочих були звільнені вчора.
5. Він написав сто тридцять нарисів п'ятдесят два оповідання і сім романів.
6. Перше оповідання було цікавим. Друге було нудним.
7. Ця коробка важить дві третіх кілограма.
8. Він вже написав три чверті свого нового роману.
9. Мені довелося чекати півтори години.
10. Паркан був заввишки в два з половиною метри.
11. П'ятнадцять годин очікування - це занадто багато.

WRITING

Imagine that you are to make a report on the topic «Advantages of graphical user interface». While preparing it use the main information from the text and write 15 sentences.

UNIT 7
APPLICATIONS PROGRAMS

Vocabulary Bank Unit 7

Read, write the translation and learn the basic vocabulary terms:

- | | |
|---------------------------------------|--|
| 1) accounts | 22) leased line |
| 2) adventure game | 23) mail merging |
| 3) animated image | 24) outsourcing |
| 4) ASP (application service provider) | 25) package |
| 5) beneficial | 26) payrolls |
| 6) best-established area | 27) PIM (personal information manager) |
| 7) broadband | 28) pitfall |
| 8) bursting point | 29) prohibitively expensive |
| 9) button icons | 30) referred to |
| 10) complexity | 31) remote access |
| 11) criteria boxes | 32) search criteria |
| 12) data centers | 33) simulation program |
| 13) default button | 34) small business tools |
| 14) developer tools | 35) spreadsheet |
| 15) Dot-matrix printer | 36) suite |
| 16) DTP (desktop publishing program) | 37) to ensure |
| 17) facility | 38) to fix |
| 18) flexibility | 39) to handle |
| 19) games consoles | 40) to manage the system |
| 20) high-end | 41) to run the application |
| 21) image editor | 42) word processor |

TEXT A. APPLICATIONS PROGRAMS

Software is the word used to refer to programs (sets of computer instructions written in a computer language) and data that is input, processed and output by a computer system.

Applications programs are programs that allow the user to do various types of work on a computer e.g. wordprocessors, databases. A set of related applications programs is referred to as a package (or a suite). Common applications programs include:

wordprocessors	for creating and editing texts
spreadsheets	for performing calculations using formulas
databases	for storing data so that it can be easily searched and sorted
graphics	for drawing
games	for playing fast action games
accounts	for keeping business accounts
payroll	for calculating salaries
presentation program	for creating multimedia slide shows
email	for sending electronic mail messages
PIM (personal information manager)	for keeping track of appointments, address book, task list, etc.
DTP (desktop publishing program)	for creating publications to be printed by a professional printer
small business tools	for performing various business tasks
website editor	for creating and editing webpages
image editor	for editing graphic images
developer tools	for writing programs to add features to existing applications and creating integrated program systems

Some applications programs, such as wordprocessors, spreadsheets and databases, are commonly referred to as office programs because they are commonly used in a typical office. Office packages (or suites) such as Microsoft Office are sets of interrelated office programs. Different versions of office suites are usually available containing different combinations of programs. Mailmerging is a useful feature found in most office suites that combines a database with a wordprocessor document to automatically produce a copy of a standard letter for each record in the database.

A variety of computer hardware is used in the doctors' practice in this unit including:

PC	common name for an IBM compatible personal computer
network	computers connected together.
file server	a powerful computer that stores and allows users access to data files on a network.
laser printer	a very high quality text and graphics printer that has a photosensitive drum that deposits toner powder on the paper

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dot-matrix printer	a low quality printer that prints by hammering pins on the paper to print an image made up of dots. The hammering action means that it can print on special multipart paper where a number of copies are produced at the same time.
CD-ROM	a compact disk read only memory storage device that is cheap to produce and suitable for storing large amounts of data.

For example, the Patient Browser program (GPASS) is a type of database for sorting and searching patient records. To search, you select different option screens by clicking on a tab with a mouse and inputting the search criteria (details of what you are looking for) in text boxes known as criteria boxes. Different button icons can be clicked to perform different operations e.g. the Find button. The default button is the option that is selected automatically.

Tomb Raider is a popular adventure game that has appeared in various versions. The main character is represented by a female animated image, known as Lara Croft. The user follows a storyline in which they have to solve puzzles and control the movements of the main character, sometimes having to react quickly to avoid dangerous obstacles. It is available on well-known games consoles (specialized games computers) called Play Station and Dreamcast manufactured by a company called Sega.

Sim City is a simulation program (a program that simulates real life) in which the user has to develop a city by building roads and 3D (three-dimensional) buildings, setting taxes, etc. They also have to control objects such as simulated cars and people. The user can download (copy from a server computer) additional objects and swap items with other users using a special website.

An ASP (application service provider) rents applications to users i.e. instead of buying software, the user pays for using applications as and when they need them.

The ASP provides the software, manages the hardware and provides storage space, security controls and the physical links to customers. The ASP normally leases storage space for programs and data from data centers (facilities for storing large amounts of information) owned by data storage specialists.

The user is provided with remote access (access communications network) to a wide variety of programs including: generic applications such as e-mail (electronic mail) and office suites, high-end (advanced) packages including large, complex business applications such as enterprise resource planning tools (e.g. SAP), business services, such as payroll and accounting systems, expensive specialist tools and e-commerce resources (electronic commerce - buying and selling on the Internet).

This gives the user more flexibility and saves them having to install and maintain programs, upgrade (install newer versions of programs), deal with viruses (programs that can reproduce themselves and are written with the purpose of causing damage or causing a computer to behave in an unusual way) and manage e-mail systems (electronic mail systems).

Disadvantages of this system include: the need for a broadband (high bandwidth i.e. a connection with a high signal capacity network connection or a leased line (a cable connection that is rented for use in a communications system) and dependence on the ASP to provide a secure, reliable, readily available service.

POST-READING ACTIVITY***Task 1. Answer the following questions.***

1. What are applications programs? 2. What is referred to as a package (or a suite)? 3. What applications programs do you know? 4. What programs are commonly referred to as office programs? Give an example of an office package. 5. What is a useful feature of most office suites? 6. What computer hardware is usually used in the doctors' practice? 7. What is the Patient Browser program? 8. How do you search for patient records? 9. What is a default button? 10. What do you know about games consoles? 11. What simulation programs do you know? Give an example of such a program. How does it work? 12. What does the ASP provide? 13. What is the role of remote access? 14. What are advantages and disadvantages of this system?

Task 2. Find the English equivalents for the following Russian word combinations.

1. підготовка стандартних листів; 2. платіжна відомість; 3. база даних; 4. пересилати по лінії зв'язку; 5. пакет програм діловодства; 6. програма представлення даних; 7. критерії пошуку; 8. програма моделювання (імітації); 9. типові прикладні програми; 10. віддалений доступ; 11. виділена лінія; 12. пакет прикладних програм.

Task 3. Fill in the blanks with the words or word combinations from the box.

an ASP, flexibility, a leased line, default button, Microsoft office, office packages, electronic commerce package, search criteria, package

1. A set of related applications programs is referred to as ... 2. ... are sets of interrelated office programs. 3. This gives the user more ... and saves them having to install and maintain programs. 4. ... a cable connection that is rented for use in a communication system. 5. ... – buying and selling on the Internet. 6. The ... is the option that is selected automatically. 7. The ... are the details of what you are working for. 8. ... are sets of interrelated office programs. 9. ... rents applications to users, i.e. instead of buying software.

Task 4. Match the terms in Table A with the statements in Table B.

Table A

Table B

1. wordprocessor	a. an application program or collection of programs that can be used in different ways.
2. mailmerge	b. to copy a file from a server to a client computer in a network.
3. tab (key)	c. a small picture used in a WIMP system to represent a program folder or file or performance of a system
4. package (software)	d. a change that improves the features.
5. download	e. a type of computer application program used for typing and editing text documents.
6. icon	f. the computer keyboard key that is used to move the cursor to the next tabulation point in a wordprocessor program so that data can be spaced evenly on
7. upgrade	
8. simulation	
9. payroll	

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package	<p>the screen.</p> <p>g. a wordprocessing facility that causes a mailing list to be automatically combined with a standard letter to produce a separate copy of the letter addressed to each person on the mailing list.</p> <p>h. a set of computer programs used for calculating pay cheques.</p> <p>i. a programmed virtual environment that imitates a real or planned system.</p>
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Task 5. Mark the following as True or False.

1. The advantages of this system include: the need for a broadband network connection or a leased line.
 2. Sim City is a simulation program in which the user has to develop a city by building roads and 3D (three-dimensional) buildings, setting taxes, etc.
 3. Tomb Raider is a popular adventure game that appeared only in one version.
 4. Applications programs are programs that allow the user to do various types of work on a computer e.g. wordprocessors, databases.
 5. A set of related applications programs is referred to as database.
 6. Tomb Raider is a popular office package.
 7. Mailmerging is a useful feature found in most office suites.
 8. The default button is the option that is selected automatically.
 9. The Patient Browser Program is a type of adventure game that has appeared in various versions.

Task 6. Problem-Solving. Study these versions of Office Suite and which version provides the best for the following users. The versions are listed from cheapest to most expensive.

Office Suite Standard <ul style="list-style-type: none"> wordprocessor spreadsheet presentation program email PIM 	Office Suite Small Business Edition <ul style="list-style-type: none"> wordprocessor spreadsheet DTP email PIM small business tools 	Office Suite Professional <ul style="list-style-type: none"> wordprocessor spreadsheet database DTP presentation program email small business tools
Office Suite Premium <ul style="list-style-type: none"> wordprocessor spreadsheet database DTP presentation program email PIM small business tools website editor image editor 		Office Suite Developer <ul style="list-style-type: none"> wordprocessor spreadsheet database DTP presentation program email PIM small business tools website editor image editor developer tools

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1. A salesperson who wants to make presentations at conferences. 2. An administrative assistant who needs to write office correspondence and send and receive e-mails. 3. A programmer who wants to develop applications tailored to a company's needs. 4. A company wanting to produce its own in-house newsletter. 5. A company wishing to develop its own website. 6. A company which wants to analyse all its sales records. 7. A promotions person who wants to be able to edit complex graphics and incorporate them in brochures. 8. A company which wants to share documents on a local area network.

Task 7. Topics for writing.

1. Applications programs, their aims and functions.
2. What popular adventure games do you know? Write a short description.
3. ASP and its functions.
4. Advantages and disadvantages of ASP.

Task 8. Read the text below to find the answers to the following questions.

1. How do you pay for the applications provided by an ASP? (a. no charge; b. charged according to use; c. single payment) 2. What two main services does an ASP provide? 3. How does an ASP ensure that they have enough storage space for the changing needs of customers? 4. What types of applications are available from ASPs? 5. Why types of applications are available from ASPs? 6. What is one of the best established areas of ASP use?

Text B. APPLICATION SERVICE PROVIDERS

If your hard disk is packed to bursting point, the IT department is far too busy to fix your email problems, and your business can't afford to buy the tools that you'd like to develop the company website, then it's time to think about using an application service provider (ASP). Rather than installing software on each machine or server within your organisation, you rent applications from the ASP, which provides remote access to the software and manages the hardware required to run the applications.

There are a lot of advantages to this approach. The havoc caused by viruses makes the idea of outsourcing your email and office suite services an attractive option. It also gives you more flexibility - you pay for applications as and when you need them, rather than investing in a lot of costly software which you're then tied to for years. Not having to worry about upgrading to the latest version of your office suite or about battling with the complexities of managing an email system, leaves businesses with more time. Time to focus on what they do best.

However, there are some potential pitfalls. To use applications remotely requires a lot of bandwidth, which is only really available from a broadband connection or a leased line to the ASP itself. It is also important to ensure that the ASP will be able to provide a secure, reliable service which will be available whenever you need it.

Providing applications and storage space for vast numbers of users requires some powerful technology on the part of the ASP. This includes security controls and data storage as well as providing the physical links to customers. For the most part, ASPs don't own the data centres that store the information. Instead, they lease space from data storage specialists. In this way, they can be confident of meeting customers' increasing storage requirements by buying more space as it's needed.

There's a wide variety of applications available for use via ASPs. Office suite applications and e-mail services are two of the most generic applications available through ASPs. Large, complex business applications such as enterprise resource planning tools like SAP are another popular candidate for delivery through an ASP. Other business services, such as payroll and accounting systems are also available. This is particularly beneficial to small businesses which are likely to grow quickly and don't want to deal with the problems caused by outgrowing their existing system and having to move to a high-end package. ASPs also offer a means of using specialist tools that would otherwise prove prohibitively expensive. Small businesses have the opportunity to use such tools for short periods of time as and when they need them, rather than having to buy the software as a permanent investment.

One of the major barriers for small businesses which want to make a start in e-commerce is ensuring that they have sufficient resources to cope with sudden large increases in customers. This means not only having adequate storage for all your customers' details, but ensuring that you have the technology in place to handle stock levels, efficient delivery and large volumes of traffic. It's very rare for an e-commerce business to handle all of these elements by itself, making this one of the best-established areas of ASP use.

Being able to respond rapidly to changes in the size of your customer base and the type of product that they want to order from your business, demands more flexibility than traditional software can provide.

Task 9. Using information from the text, mark the following as True or False.

1. Software from an ASP must be installed locally on a user's computer. 2. You need a high bandwidth connection to use an ASP service. ASPs usually use their own storage space for customers. 3. Using an ASP gives you more flexibility. 4. An e-commerce business usually provides all of the required technology itself.

LISTENING AND SPEAKING

Vocabulary Bank. Interview. Former student

Read, write the translation and learn the basic vocabulary terms:

- | | |
|-------------------------------------|--------------------------|
| 1) assignment | 18) part-time course |
| 2) available | 19) qualifications |
| 3) binary system | 20) software development |
| 4) compatible personal computer | 21) suggestion |
| 5) compiler | 22) to free up |
| 6) Computing Support | 23) to maintain |
| 7) data communications | 24) to provide |
| 8) development | 25) to upgrade |
| 9) environment | 26) to upload |
| 10) foundation | 27) to back up |
| 11) full-time course | 28) to catch up |
| 12) hand-out | 29) to involve |
| 13) HW Installation and Maintenance | 30) to keep up |
| 14) LAN (local area network) | 31) to start up |
| 15) machine code | 32) tool |
| 16) mainframe | 33) work experience |
| 17) motherboard | |

Paul is 24. He has a Higher National Certificate in Computing and a Higher National Diploma in Computing Support which he completed two years ago. He has been working for a company providing support services for the last eighteen months.

EXERCISES

Task 1. Study this list of some of the subjects included in his Diploma course. In which of these subject areas would he study the topics which follow?

- 1) Computer Architecture
- 2) HW Installation & Maintenance
- 3) Info Tech Applications (1)
- 4) Info Tech Applications (2)
- 5) Multi-user Operating System
- 6) Network Technology
- 7) Software Development Life Cycle
- 8) Standalone Computer System Support
- 9) Software Development Procedural Lang.
- 10) Data Communications
- 11) Information Systems & Services
- 12) Systems Development
- 13) Communication
- 14) Project Management
- 15) Mathematics for Computing
- a) LAN Topologies
- b) PC Bus Architectures
- c) Modems
- d) How to connect printers
- e) Unix Operating System
- f) Pascal
- g) Writing a program
- h) Creating a database
- i) Maintenance of desktops
- j) Wordprocessing and other office applications
- k) Binary system
- l) Making presentations

Task 2. Listen to Part 1 of the recording to find the answers to these questions:

1. Which of the subject areas listed in Task 1 does Paul mention?
2. Which additional subjects does he mention?
3. Why did he choose to do his Diploma in support?
4. What practical work was included in the course?
5. Which subject did he particularly enjoy?

Task 3. Listen to Part 2 of the recording and answer these questions:

1. What suggestions does Paul have for improving the course? Note
a) his suggestions for improvement and b) the reasons he gives.
2. Which of the subjects he studied has he found useful in his work?
Note a) the subjects and b) examples in the work situation.

Task 4. Listen to Part 3 of the recording to answer these questions:

1. In which situations does Paul have to learn fast?
2. What sources does he use for help?
3. What advice did the college provide on sources of information?
4. What was the problem with the set book?
5. How does he feel about going back to college?

Task 5. Study this description of a student's first term. What questions might the interviewer have asked to obtain the information in italics?

In her first term Pauline studied *6 subjects*. She had classes on *four days' each week*. On Monday morning she had *IT and Information Systems*. *Tuesday* was a free day for home study. On Wednesday she had Systems Analysis in Room 324. Now she studies Computer Architecture *on Thursdays*. *Programming* happens on Friday mornings. Communication takes place *once a week* on Friday afternoons. She likes *Mr Blunt's classes* most. She has a *15-minute* coffee break each day and a lunch break from 12.00 to 1. 00.

Task 6. up- and -up verbs Complete each gap in these sentences with the appropriate form of the correct verb from this list:

<i>back up</i>	<i>keep up</i>	<i>update</i>
<i>build up</i>	<i>set up</i>	<i>upgrade</i>
<i>catch up</i>	<i>start up</i>	<i>upload</i>
<i>free up</i>		

1. To avoid losing data, you should _____ your files regularly.
2. You can _____ your PC by adding a new motherboard.
3. Delete some files to _____ space on your hard disk.
4. Data is _____ from regional PCs to the company's mainframe each night.
5. The operating system boots when you _____ your computer.
6. She's taking a course to _____ her knowledge of computing.
7. The computer checks the memory when it _____.
8. He _____ a website to advertise his travel company.
9. You can _____ with developments by reading PC magazines.
10. If you miss a class, you can study the hand-outs to _____.
11. The image in a digital camera is _____ from a red, green and blue image.

GRAMMAR REVIEW

Conditional sentence	Verb form in if-clause	Verb form in result-clause	Meaning of if-clause	Use	Examples
0	If + Simple Present	Simple present	Real and Possible situations at any time, but most commonly in present.	1) situations that can occur at any time (more than once) and their results, 2) general truths, 3) general instruction.	<i>If you press this key, the game starts.</i> <i>If you boil water, it turns into steam.</i> <i>If you want to start, press the red button.</i>
I	If + Simple Present	Simple Future	Possible in the present or future	1) possible future events and their results, 2) command, 3) offer, 4) warnings.	<i>If it rains, I will stay at home.</i> <i>If you come home late, don't make noise.</i> <i>I'll call the hotel if you don't have time.</i> <i>I'll call the police if you don't leave now!</i>
II	If + Simple Past	Would or verb + Could	Impossible or not true in the present • improbable in the future • imaginary situations	1) improbable future event or situation 2) a hypothetical current situation which is contrary to known facts, 3) giving advice.	<i>If I won a lottery, I would buy an island.</i> <i>If I knew the answer I would tell you.</i> <i>If I were you, I would see a doctor.</i>
III	If + Past Perfect	Would or have + past participle Could Should	Impossible in the past	<i>If I had seen the red light, I would have stopped.</i> <i>If you had worked hard, you could have passed your exam.</i>	

Exercise 1. Open the brackets and say each sentence three times. Use the first, the second and the third conditionals.

E.g. If I (to see) her, I (to be) glad.

1. If I see her, I will be glad.

2. If I saw her, I would be glad.

3. If I had seen her, I would have been glad.

1. If she (to know) English, she (to try) to enter the university.

2. If my mother (to buy) a cake, we (to have) a very nice tea-party.

3. If I (to have) a computer, it (to help) me in my studies.

4. If my grandfather (to be) younger, we (can) go running together.

5. If my girlfriend (not to be) so capricious, we (to get) on better.

6. If there (to be) no clouds, we (not/ to enjoy) the sun.

FIRST CONDITIONAL

Exercise 2. Match the sentence parts.

If you lie in the sun, you'll get sunburned.

lie in the sun

don't eat your breakfast

don't work hard

eat too much

miss the bus

take this medicine

don't save your money

take a taxi

don't listen in class

get there sooner

get sunburned

not be able to buy a bicycle

be hungry

not understand the homework

get fat

not pass your exam

be late

soon feel better

Exercise 3. Complete the sentences with the verbs in brackets. Add a comma where necessary.

1. If the dog _____ (keep) barking, the neighbours _____ (complain).

2. The boss _____ (be) angry if you _____ (arrive) late for work again.

3. If you _____ (eat) too much you _____ (be) sick.

4. If the weather _____ (be) bad on Sunday we _____ (stay) at home.

5. If you _____ (study) hard you _____ (pass) your exam.

6. If a driver _____ (break) suddenly on a wet road, he _____ (skid).

7. I _____ (buy) you an ice cream if you _____ (say) please.

8. If you _____ (not be) careful you _____ (fall).

9. Ice _____ (turn) to water if you _____ (heat) it.

10. I'm sure they _____ (steal) your car if you _____ (leave) it unlocked.

11. If you _____ (not like) the magazine, I _____ (bring) you another.

SECOND CONDITIONAL

If I **had** a lot of money, I **would** (I'd) **built a** big house.
If I **was** (**were**) very rich, I **could** buy an oil well.

Exercise 4. Answer the questions.

1. If you built a house, where would you build it?
If I built a house, I'd build it in. _____
2. If you wanted to give your money away, who would you give it to?

3. If you took a long holiday, where would you go?

4. If you wanted expensive clothes, where would you buy them?

5. If you wanted a car, what kind would you buy?

Exercise 5. Write a sentence with if for each situation.

1. We don't see you very often because you live so far away.
If you didn't live so far away, we'd see you more often. _____
2. This book is too expensive, so I'm not going to buy it.

3. We don't go out very often – we can't afford it.

4. I can't meet you tomorrow – I have to work late.

5. It's raining, so we can't have lunch outside.

6. I don't want his advice, and that's why I'm not going to ask for it.

7. He lives near his work, so he is never late.

8. His French is good, so he reads French books in the original.

9. They have a maid, so they can enjoy themselves.

10. She goes to bed early, so she always wakes up in time.

IF I WERE YOU...

Exercise 6. What is your advice? What do you suggest?

1. IAN: I'm going to buy a new car.
(suggest a make or a model of car: Ford, Metro. . .
If I were you, I'd buy a _____
2. ROSE: I want to paint the living room. But what colour?
(suggest a colour)

3. TOM: I'm going on holiday.
(suggest a country)

4. KATE: I have a headache. What shall I do?
(suggest something to help)

5. PAT: I want to see a good film.
(suggest a film title)

6. ANGELA: I'm thirsty. What can I have for a drink?
(suggest something she can have)

ORAL ACTIVITY

Exercise 7. How would your life be different?

- How would your life be different if you _____ (have) fifteen brothers and sisters?
- “ if you _____ (can) speak twelve languages?
- “ if you _____ (can) talk to animals?
- “ if you _____ (be) less than one metre tall?
- “ if you _____ (not need) to sleep?
- “ if you _____ (have) ten children?
- “ if you _____ (have) four arms?
- “ if you _____ (become) a leader of your country?
- “ if you _____ (be) colour-blind?
- “ if you _____ (can't) eat anything except grass?
- “ if you _____ (lose) your memory completely?

Exercise 8. Complete the sentences with the verbs in brackets.

1. If you _____ (paint) the walls white, the room _____ (be) much bigger.
2. If fools _____ (wear) white caps, we would seem a flock of geese.
3. If you _____ (change) your job, would it affect your salary?

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4. If I _____ (win) a big prize, I'd give up my job.
5. If there _____ (be) no fools, there _____ (be) no wise men.
6. If wishes _____ (be) fishes, you _____ (need) a whole ocean to hold all of mine. Happy Birthday!
7. What would you do if the lift _____ (get) stuck between floors?
8. If he _____ (not smoke) so much, he _____ (feel) much healthier.
9. If the ice _____ (be) thick enough, we _____ (be able to) to walk across the river.
10. If he ever _____ (polish) his shoes, he _____ (look) smart.
11. If he _____ (not spend) hours watching television, he _____ (have) time to do some jobs in the house.
12. If we _____ (have) any matches, we _____ (light) a fire.
13. If I _____ (have) heaps of money, I _____ (drink) champagne with every meal.
14. If you _____ (drink) champagne with every meal, you soon _____ (get) tired of it.
15. If I _____ (be) John, I _____ (marry) Amanda.

THIRD CONDITIONAL

Long form:	If I had known you were in hospital, I would have visited you.
Short form:	If I'd known you were in hospital, I'd have visited you.

Exercise 9. You have a friend who is careless with his /her things. Write what would /wouldn't have happened if he /she had /hadn't done the following.

Example: He left the suitcase unattended at an airport. It got stolen.

*If he **hadn't left** his suitcase unattended, it **wouldn't have got** stolen.*

1. She forgot to lock the car. Her camera got stolen.

2. He left his wallet in a restaurant. It disappeared.

3. He didn't lock the door of his flat. Thieves broke in.

4. She didn't put her name on her suitcase. Someone took it by mistake.

5. He parked his car without lights. Another car ran into it.

6. She left her parcels on the bus. Someone took them.

Exercise 10. Put the verbs in brackets into the third conditional.

1. If you _____ (arrive) ten minutes earlier, you _____ (get) a seat.

UNIT 7. APPLICATIONS PROGRAMS. CONDITIONALS. REVISION.

2. If I _____ (realize) that the traffic lights were red, I _____ (stop).
3. If my friend _____ (know) my address, he _____ (find) my house.
4. If he _____ (know) that the river was dangerous, he _____ (not try) to swim across it.
5. If you _____ (be) in such a hurry, you _____ (not put) sugar into the soup instead of salt.
6. We _____ (go) by air if we have had enough money.
7. If he _____ (study) more, he _____ (pass) his exam easily.
8. If we _____ (invite) them, they _____ (come) to our party.
9. If she _____ (wear) a raincoat, she _____ (not get wet).
10. I _____ (can enter) the house if I _____ (not lose) my key.
11. If she _____ (have) some money on her, she _____ (can) buy a new dress.
12. If you _____ (write) the address properly, the parcel _____ (not get) lost.

Exercise 11. It's two o'clock in the morning. Roger and Diana have just come back from a party. Complete the following dialogue by putting the verbs in brackets into the correct form. Use the first, second and third conditionals.

Roger: Where's your key?

Diana: What do you mean? You've got a key, haven't you?

Roger: (1) If I had got (get) mine, I wouldn't need (not need) yours, would I?

Diana: No, but I haven't got mine.

Roger: But I told you to bring it.

Diana: No, you didn't.

Roger: Yes, I did. (2) If you _____ (listen), you _____ (hear) me.

Diana: Well, I don't remember you telling me. Anyway, I couldn't find it.

Roger: You mean you've lost it again?

Diana: Not really. It's at home somewhere. (3) I _____ (have) time to look for it if we _____ (not leave) in such a hurry.

Roger: That's not the point. (4) If you _____ (be) more organized, you _____ (keep on) losing it in the first place.

Diana: That's not fair! I don't keep on losing it. Anyway, what are we going to do now? We haven't got a key.

Roger: I don't know. I suppose I'll have to break a window.

Diana: You can't do that! (5) If the neighbours _____ (hear) you, they _____ (think) we're burglars!

Roger: All right, then. There's a small window open in the bathroom. (6) If you _____ (stand) on my shoulders, you _____ (be) able to reach it and then you can climb in.

Diana: I'm not going to stand on your shoulders. I might fall off!

Roger: Don't be silly! (7) If I _____ (hold) your legs, you _____ (be) quite safe.

Diana: I still don't like it.

Roger: Look. (8) I _____ (climb) in myself if I (can) get through the window, but I can't. I'm too big. You'll have to do it.

UNIT 7. APPLICATIONS PROGRAMS. CONDITIONALS. REVISION.

Diana: (9) But if someone _____ (see) me, they _____ (call) the police!

Roger: For goodness sake! (10) It _____ (make) things a lot easier if you _____ (not worry) about other people! Now, are you ready?

Diana: OK.

Roger: All right?

Diana: (11) If you _____ (move) a bit closer, I _____ (be) able to reach.

Oh! Not so fast! Roger! Oh!!

Roger: Now look what you've done! You've put your foot through the window!

Diana: Roger, there's something I've got to tell you!

Roger: Honestly, can't you do anything right! (12) If you _____ (not be) so careless, you _____ (not break) it!

Diana: Roger, listen! I hate to tell you, but this isn't our house!

Exercise 12. Use the correct mood of the verbs in brackets.

1. If the storm ... (not rage) so furiously last night, many trees ... (not break).
2. I ... (go) and ... (live) in the tropics if only I ... (can).
3. What we ... (do) if television ... (not invent)?
4. If the laws of nature ... (not break), the situation ... (be) different.
5. Australia ... (be) a delightful country to live in if it ... (not be) so far.
6. If I ... (live) long enough, I ... (can) do so many great things!
7. If I ... (not pay) all my bills before leaving the hotel, I ... (not be) penniless now.
8. If the fellow ... (not leave) the city, the police ... (arrest) him.
9. If Mel ... (not be) so light-minded, Hilda ... (not leave) him!
10. If we ... (know) how dangerous the expedition was, we ... (refuse).
11. Rachel ... (pass) the interview on Friday if she ... (know) a second foreign language.
12. She ... (wear) this frock tonight if she ... (not put on) so much weight lately.

Exercise 13. Finish these sentences, taking care to use the correct tenses.

1. If he had taken my advice ...
2. If she practiced more ...
3. If you had checked the petrol before we started ...
4. This clock wouldn't have run down if ...
5. If these gates are locked ...
6. If we leave before breakfast ...
7. Her life might have been saved if ...
8. If the volcano starts erupting ...
9. He would have given her diamonds if ...
10. You would have been angry if . .
11. You will have to go to the dentist if ...

Exercise 14. Translate into English.

1. Якби вона вміла добре готувати, то її чоловік був би щасливий.
2. Якби я жив в Африці, то їв би одні фрукти: банани, апельсини, ківі.
3. Будь він більш енергійним, то давно міг би зробити відмінну кар'єру.
4. Якби вона носила короткі спідниці, то виглядала б молодшою.
5. Собака загавкає, якщо ти постукаєш у двері.
6. Якби зараз йшов дощ, я б залишився вдома.
7. Якби ти зустрівся з нею, то закохався б в неї. Вона чарівна!
8. Якби вона пристебнула ремінь безпеки, то інспектор не оштрафував би її.
9. Анна, що сказала б твоя мама, якби побачила тебе зараз? - Вона б мене вбила!
10. Все було б зараз прекрасно, якби я не провалилася на останньому іспиті.

MAKING A WISH

Exercise 15. Translate into Ukrainian. Give as many variants as possible.

- A.
1. I wish I lived in a big house.
 2. I wish our family was large.
 3. I wish I had a lot of money.
 4. I wish I lived in the centre of the town.
 5. She wishes she lived on the second floor.
- B.
1. I wish I had done my lessons.
 3. I wish I had taken my girlfriend to that party.
 3. He wishes he had learnt to swim.
 4. He wished he had gone to Spain last summer.
 5. We wish we had seen the film before.

Exercise 16. Put the verb in brackets into the correct form after "I wish".

1. I wish I _____(know) Spanish.
2. I wish I _____(not /drink) so much coffee in the evening: I couldn't sleep half the night.
3. I wish you _____(read) more in future.
4. I love sunny weather. I wish it _____(be) warm and fine all the year round.
5. I wish I _____(not /lend) Nick my watch: he has broken it.
6. I wish I _____(not / have) to do my homework every day.
7. He wishes he _____(buy) that book last week – now he hasn't got enough money.
8. I wish I _____(be) older, I could have a driving license.
9. Tony wishes he _____(go) to Paris with his brother, but he has to work.
10. I wish the dog _____(not /eat) the tickets – now we can't go to the show.
11. I wish I _____(not /make) that mistake yesterday.
12. We wish we _____(not /leave) the gate open. Now the dog has escaped.

Exercise 17. There is one mistake in each of these sentences. Find the mistake and correct it.

1. I wish I can fly. _____
2. My house was robbed last year. The money wasn't so important, but I wish the burglar didn't take my grandmother's ring. _____
3. I wish you told me this yesterday.

4. This is a beautiful place; I wish we don't have to leave so soon.

5. I wish my garden would be bigger, then I could have a garden party.

GRAMMAR REVISION

Exercise 18. Put in the verb TO BE into present, past and future simple.

1. My father _____ a teacher.
2. He _____ a pupil twenty years ago.
3. I _____ a doctor when I grow up.
4. My sister _____ not _____ at home tomorrow.
5. She _____ at school tomorrow.
6. _____ your father at work yesterday?
7. My sister _____ ill last week.
8. Our teacher _____ ill so she _____ at school next week.
9. Yesterday we _____ at the theatre.
10. Where _____ your mother now? - She _____ in the kitchen.
11. Where _____ you yesterday? - I _____ at the cinema.
12. When I come home tomorrow, all my family _____ at home.
13. _____ your sister in bed now? - No, she _____.
14. _____ you _____ at school tomorrow? - Yes, I _____.
14. When my granny _____ young, she _____ an actress.
15. Where _____ your books now? - They _____ in my bag.
16. How old _____ you _____ next birthday?

Exercise 19. Complete the gaps in the following sentences with the correct form of the verb in brackets (Past Simple, Present Perfect, Present Perfect Continuous).

1. George went to the cinema but he (not enjoy) the film much.
2. So far we (have) no troubles.
3. How long....you (wear) glasses ?
4. I (use) to swim every day when I was young.
5. You always (be) my closest friend.
6. I (wait) for you since two o'clock. I have something urgent to tell you.
7. you (lock) the door before you left the house?

UNIT 7. APPLICATIONS PROGRAMS. CONDITIONALS. REVISION.

8. This is the first time I (eat) so many hamburgers.
9. I (shop) all day and I haven't got a penny left.
10. How long....your aunt (be) ill?

Exercise 20. Choose the correct form in the following sentences.

1. I'm sure that I am going to recognize / 'll recognize him.
2. He is playing / 'll play in a tennis match on Friday.
3. When he 'll return / returns , I'll give him the key.
4. If I'm going to be late, I 'll let / let you know.
5. I reminded you once ; I won't do / am not going to do it again.
6. As soon as the holidays begin, this beach 'll become / becomes very crowded.
7. If he won't work / doesn't work hard, he won't pass his exam.
8. The refrigerator goes on / 'll go on making that noise till we have it repaired.
9. I 'll read / am going to read you his answer to my letter of complaint.
10. If the bus won't come / doesn't come soon, I'll be late for school.

**Exercise 21. Complete the gaps in the following sentences with a word/phrase in the box.
(There may be more than one possibility).**

a few a lot of little several too many loads of
a lot of few too much enough plenty of a little

1. I haven't got money to buy a car.
2. Let's go to another restaurant. There are people here.
3. There was food in the fridge. It was nearly empty.
4. It cost me money to furnish this house.
5. He doesn't speak much English. Only words.
6. Have you got minutes? I'd like to tell you something.
7. He's got no financial problems. He's got money.

Exercise 22. Fill in the blanks with articles where necessary.

1. When I opened letter folded sheet of paper fell out.
2. What unexpected pleasure!
3. door leading to kitchen stood wide open.
4. There is taxi waiting downstairs. driver says he won't wait any longer.
5. Here are glasses, address is inside case. No I sent David (cable) to say you'd be arriving on Thursday.
6. One should never leave valuables in hotel bedroom, darling.
7. telephone is ringing, will you answer it, dear?
8. Is there telephone here?
9. I am afraid banana is a little bit off, better take apple.

UNIT 7. APPLICATIONS PROGRAMS. CONDITIONALS. REVISION.

10. I looked up and saw speed-boat no more than 20 yards away. It was hopeless to shout and attract attention of pilot. He could not hear us. boat bore down on us like swooping hawk.

Exercise 23. Fill in the gaps with prepositions where necessary.

1. We had a lovely meal the plane.
2. The burglar climbed the fence and into the garden.
3. Bye for now. I'll see you school tomorrow.
4. Mr. King wasn't work yesterday.
5. Tony could see his face the mirror.
6. Keith stole some money and ended up prison.
7. Ellen is not really interested learning how to ski.
8. home I'm used going to bed early.
9. I was really annoyed losing my new calculator.
10. I feel sorry Sam because he hasn't got any friends.

Exercise 24. Report the following statements.

1. "He's ill", she thought.
2. "I'll be back tomorrow", he said.
3. "Shakespeare didn't speak French", the professor said.
4. "Park round the corner", she told me.
5. "Did Mary phone back?" I wondered.
6. "When is the car going to be ready?" I asked.

Exercise 25. Put the verbs in brackets into the correct form.

1. If we (live) in a town, life (be) easier.
2. I (let) you know if I (find) out what's happening.
3. If I (be) you, I (get) that car serviced.
4. You (not catch) cold if you (take) your coat.
5. She (have) a nervous breakdown if she (go) on like this.
6. If I (know) you were coming, I (invite) some friends in.

Exercise 26. Choose the right variant.

1. The new house _____ next year in this street.
a) will built c) is built
b) will be built d) will be build
2. The music at the party was very loud and _____ from far away.
a) can be heard c) could be heard

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b) can hear d) is heard

3. *My car disappeared. It_____.*

a) must has been stolen c) must have been stole

b) must have been stolen d) should have been stolen

4. *How many accidents_____by dangerous driving nowa-days?*

a) is caused c) are cause

b) have been caused d) are caused

5. *Last night a tree_____down.*

a) was blown c) blown

b) is blown d) blow

6. *The car_____at the moment.*

a) being cleaned c) is being cleaned

b) was cleaned d) was being cleaned

7. *The shirts_____when I came home.*

a) are being washed c) were washed

b) were being washed d) are washed

8. *He is not going to the party. He_____.*

a) haven't been invited c) isn't being invited

b) wasn't been invited d) hasn't been invited

9. *Jane didn't know which way to go. She_____.*

a) hadn't been told c) isn't told

b) hasn't been told d) wasn't been told

10. *I_____three days to write a composition.*

a) was give c) has given

b) was given d) gave

11. *Exobiology is the study of life_____other planets.*

a) in c) on

b) at d) for

12. *_____aspects of his talk have global applications.*

a) one of the c) any of the

b) some d) none

13. *The department ordered_____new furniture for the office.*

a) many c) some

b) much of d) any

14. *My cousin lives_____a farm.*

a) at c) within

b) in d) on

15. *She wished she_____a princess when she was a young girl.*

a) were c) is

b) was d) be

16. *Travellers' checks are useful when one is travelling because _____people refuse to accept them.*

a) quite a few c) few

b) a few d) many

17. *He was angry_____his friend.*

a) with c) on

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b) at d) about

18. *While John was watching television, Maria_____a book.*

a) read c) was reading

b) has read d) have been reading

19. *There are thirty people in the room. Twenty are from Latin America and_____are from_____countries.*

a) the others, another c) another, others

b) the others, other d) the other, the others

20. _____lake Erie is one of_____five Great Lakes in_____North America.

a) -, the, the c) -, the, -

b) the, -, - d) the, the, -

21. *We have spent_____time on this homework.*

a) too much c) such many

b) too many d) so a much

22. *If_____of you takes a vacation now, we will not be able to finish that work.*

a) either c) anybody

b) each c) somebody

23. *It's too hot and my hair needs_____.*

a) to be cutting c) cutting

b) be cut d) to be cut

24. *I wished that I_____up yesterday.*

a) had washed c) washed

b) have washed d) didn't washed

22. *We hope that they_____yesterday.*

a) came c) have came

b) come d) had come

23. *Don't worry. Some day you will get used to_____English.*

a) speak c) have spoken

b) speaking d) have to speak

24. *The girls speak_____English.*

a) fluently c) quite fluently

b) fluent d) enough fluent

25. *A mink coat costs_____a sable coat.*

a) twice more than c) twice too much as

b) twice much as d) twice as much as

26. *Before payday, I have_____money as my brother.*

a) as little c) such little

b) as few d) so little

27. *You'll stick_____with the pins if you are not careful.*

a) you c) yourself

b) your d) yours

28. *The accident was my fault, so I had to pay for the damage _____the other car.*

a) of c) for

b) to d) at

29. *The bus service is very good. There is a bus_____ten minutes.*

a) every c) all

UNIT 7. APPLICATIONS PROGRAMS. CONDITIONALS. REVISION.

b) each d) almost

30. *He used _____ much harder last year.*

a) to work c) worked

b) working d) to working

Who did they arrest?

WRITING

Read the article about how to write a good instruction and then make up your own “How to” considering the advice given in the text.

The Elements of Good Instructions

People often complain that most directions are impossible to follow. In fact, this type of complaint is often leveled against many types of Technical Writing, and often justifiably so. The reason for the complaint, though, is that too many writers ignore some of the most fundamental rules to writing effective instructions:

Basic Assumptions for Writing Instructions

- readers will not read all your instructions;
- some people will try to work without reading the instructions at all (reading the instructions is often a last resort)
- you need to keep instructions short and simple;
- don't over assume about your reader's ability (or patience);
- think carefully about the type of reader you will have for the instructions.

Write for the User

- make sure your instructions are helpful and written for your users;
- be specific;
- provide encouragement (for example, "If you hear a chime, you've done part A correctly and are now ready for part B. Good work!");
- define terms that readers may not know;
- pace your instructions carefully (don't say, "do step 1, then step 2, then step 10;" if you jump over too much information, your readers will get lost);
- anticipate problems and places where your readers might get lost; warn your readers if they are likely to find something confusing (for example, "at this point, be sure not to select option 3--instead choose option 2; option 3 is for later");
- summarize information (for example, "you've now covered part one, ignition, and the machine should now be running");
- test your instructions to make sure they work; many sets of instructions are hard to follow because no one ever bothered to test them and so simple problems with the directions were missed;
- ask someone else to test your instructions, too, to make sure you haven't assumed too much information; it has to be clear to your user, not just to you.

Quantity of Instructions

- shorter is better and less confusing;
- 10 steps or less is the ideal;
- if you have 15 or more steps, try to divide the task in half;
- if you have too many steps and someone makes a mistake late in the process, they may have to go all the way back to the beginning and completely restart.

UNIT 7. APPLICATIONS PROGRAMS. CONDITIONALS. REVISION.

"Chunking" Information

- break large sets of instructions into smaller units; this is called "chunking";
- this allows people to have places to stop and track their progress;
- smaller units organized around a common theme are easier to understand;
- smaller units of instructions also won't tire your readers out as quickly;
- small units look, and actually are, easier to do Layout;
- don't forget about the rules of document design;
- use headings to organize your instructions;
- use bullets for lists;
- use numbers for sequential lists of information;
- include diagrams and other visual aids to clarify meaning.

Progress Checking/Landmarks

- readers are more likely to be able to successfully follow directions if they can check their progress as they go;
- include landmarks that tell readers they are on the right track (for example, "after pressing F2, you will see a blue screen");
- make sure your landmarks are easy to spot;
- permanent landmarks are better than temporary ones (don't say, "you will see a blue screen" if sometimes the screen will be red);
- you can also use landmarks to warn people (for example, "do not press delete or you will erase your disk") or to let them know if they've gone off track (for example, "if you see a red gas station, you've driven too far");
- you also want to give readers a chance to test how well they are following your directions (for example, "if you've done these first 5 steps correctly, you should hear a bell chime").

UNIT 8
MULTIMEDIA

Vocabulary Bank Unit 8

Task 1. Read, write the translation and learn the basic vocabulary terms:

- | | |
|---|-----------------------------|
| 1. animation | 25. multimedia |
| 2. audio and video compression | 26. music library |
| 3. audio file format | 27. music synthesisers |
| 4. car dashboard | 28. musical genres |
| 5. compilation (n) | 29. optical storage media |
| 6. compress (v) | 30. play lists |
| 7. control features | 31. randomize (v) |
| 8. data transfer rate | 32. randomize the selection |
| 9. digital audio | 33. recorder |
| 10. discrete code | 34. reproduce |
| 11. DVD (digital versatile disk) | 35. rip/ to extract |
| 12. encoder (n) | 36. route the signals |
| 13. equalizer (n) | 37. ripper (n) |
| 14. frequency display | 38. sample (v, n) |
| 15. graphic equalizer | 39. skin (n) |
| 16. interchangeable faceplates | 40. song's lyrics |
| 17. jukebox | 41. sound sample |
| 18. key difference | 42. speakers |
| 19. Kilohertz | 43. spectrum analyzer |
| 20. Megabytes | 44. standalone players |
| 21. MIDI (Musical Instrument Digital Interface) | 45. strip (v) |
| 22. mixing desk | 46. strip out sounds |
| 23. MP3 (MPEG Audio Layer 3) | 47. tag |
| 24. MPEG (Motion Picture Experts Group) | 48. track info button |

TEXT A. MULTIMEDIA

Multimedia is the term used to refer to a combination of text, graphics, animation, sound and video.

MP3 (MPEG Audio Layer 3) is a standard way of storing compressed, digital audio files (usually music). The name MP3 comes from MPEG (pronounced EM-peg), which stands for the Motion Picture Experts Group, an organisation that develops standards for audio and video compression. MP3 is actually MPEG Audio Layer 3.

MP3 competes with another audio file format called WAV. The key difference is that MP3 files are much smaller than WAV files. An MP3 file can store a minute of sound per megabyte, while a WAV file needs 11 or 12 megabytes to hold the same amount. How does MP3 achieve this compression? CDs and audio files don't reproduce every sound of a performance. Instead, they sample the performance and store a discrete code for each sampled note. A CD or WAV file may sample a song 44,000 times a second, creating a huge mass of information.

By stripping out sounds most people can't hear, MP3 significantly reduces the information stored. For instance, most people can't hear notes above a frequency of 16kHz, so it eliminates them from the mix. Similarly, it eliminates quiet sounds masked by noise at the same frequency. The result is a file that sounds very similar to a CD, but which is much smaller. An MP3 file can contain spoken word performances, such as radio shows or audio books, as well as music. It can provide information about itself in a coded block called a tag. The tag may include the performer's name, a graphic such as an album cover, the song's lyrics, the musical genre, and a URL for more details.

Digital audio is created by sampling sound 44,000 times a second and storing a code number to represent each sound sample. The files are compressed by removing any sounds that are inaudible to the human ear, making them much smaller than files created using other digital audio storage standards, such as WAV. The size of an audio file is commonly measured in megabytes (MB) (millions of bytes). The frequency of a sound is measured in kilohertz (kHz) (thousands of cycles per second). MP3 files have extra code added, called tags, that give the user information about the file e.g. the performer's name, a URL (uniform resource locator i.e. a web address) or a graphic such as an album cover.

Because of their small size, MP3 files are more suitable for transferring across the Internet (the connection of computer networks across the world). Some Internet websites (sets of related pages stored on a Web server on the World Wide Web) are devoted to providing MP3 files for downloading (copying from a server computer to a client computer). The user can create their own music compilations (combinations of files) by listening to each file using a computer program, such as Windows Media Player, and choosing what files to download. They can then use a computer program called an MP3 player to listen to the files and control the sound. MP3 players let the user group songs into play lists and randomize the selections. They also have sound control features such as spectrum analyzers, graphic equalizers, and frequency displays.

A track info button allows the user to see the information stored in the MP3 file tag. Other buttons may take you to a music library where you can organize your MP3 files by performer or genre. The appearance of MP3 players can be changed using programs called skins (or themes). These programs are designed to change the appearance of the most popular players. MP3 players often include a program, called a ripper, that lets the user rip (extract) a song from a CD (compact disk) and convert it to a standard WAV file. Another program called an encoder is used to convert WAV files into MP3 files or vice versa.

UNIT 8. MULTIMEDIA. ADJECTIVES. ADVERBS. PRONOUNS.

Recorder programs are also available that enable the user to create audio CDs using a writable CD-ROM drive. Special MP3 player devices are also available that enable the user to listen to MP3 files without a computer.

MIDI (Musical Instrument Digital Interface) is a standard way of connecting musical instruments, music synthesizers, and computers. A piece of electronics called a MIDI interface board is installed on each device to enable the device to communicate using MIDI standards. As music is being played, it can be displayed on a monitor screen as a musical score, then edited using a computer program that uses all the features of a mixing desk (an electronic device for mixing sounds together), stored and printed. MIDI systems do not store the actual sound. Instead the sound is encoded (stored as MIDI messages) in the form of 8-bit bytes (units of capacity equal to eight binary digits i.e. 1s and 0s) of digital information. A bit is a binary digit i.e. a 1 or a 0, and a byte is a group of 8 bits. The MIDI messages commonly consist of instructions that tell the receiving instrument what note to play, how long and how loud it should be played, including a number that indicates which instrument to play. Each instrument is represented by a different number e.g. 67 is a saxophone.

A DVD-ROM, commonly referred to as a DVD (digital versatile disk - previously known as digital video disk), is a development of CD-ROM (compact disk read only memory). It is an optical storage medium (a storage medium that uses laser light to store data) that provides large amounts of storage space for multimedia files. A DVD-ROM drive (a storage device for reading DVD disks) uses blue laser light (rather than the red laser light used by CD-ROM drives) to read information from the disk. Both sides of the disk can be used for storing files and each side can have two separate storage layers. The data transfer rate of a DVD (the speed at which data can be read from a DVD) is also faster than that of a CD-ROM. The capacity of a DVD is commonly measured in gigabytes (GB) (thousands of millions of bytes).

MPEG is a method of compressing and decompressing video signals. MPEG stands for Motion Picture Experts Group, an organisation that develops standards for audio and video compression.

POST-READING ACTIVITY

Task 2. Answer the following questions.

1. What does the term “multimedia” mean? 2. What does MP3 stand for? 3. What is the difference between MP3 and WAV files? 4. What kind of sound does MP3 strip out? 5. What kind of information is included in the tag? 6. Why are MP3 files more suitable for transferring across the Internet? 7. What is downloading? 8. How can the user see the information stored in the MP3 file tag? 9. How can the appearance of MP3 player be changed? 10. Is it possible to listen to MP3 files without a computer? 11. What is MIDI? 12. What is a DVD-ROM?

Task 3. Match the words from the box with their definitions.

MIDI, MPEG, ripper, skin, download, MP3, URL, multimedia, tag, DVD-(ROM)
--

1. a uniform (or universal) resource locator

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2. acronym for musical instrument digital interface. A standard for connecting musical instruments to computer systems.
3. a Motion Picture Experts Group standard for audio compression
4. Motion Picture Experts Group, a committee that develops standards for audio and video file formats and compression
5. the combination of text, graphics animation, sound and video
6. a program that extracts songs from a CD and turns them into WAV files
7. a computer program that is used to change the interface of another program, e.g. to change the screen display on an MP3 player program
8. a label used in a mark-up language. It is attached to a piece of text to mark the start or the end of a particular function.
9. a process of copying a file from a server to a client computer in a network
10. a digital versatile disk read only memory. An optical disk storage device that can hold a large amount of video data.

Task 4. Find the English equivalents of the following word combinations.

1. стандартний спосіб запам'ятовування (зберігання); 2. зжимання цифрових звукових файлів; 3. основні відмінність; 4. хвилина звучання; 5. заміряти характеристики; 6. дискретний код; 7. групувати записи пісень; 8. знайти пісню на диску; 9. робити вибірку із збірок; 10. пульт мікшування

Task 5. Mark the following as True or False.

1. MP3 reduces the information stored by removing loud sounds. 2. It is possible to alter the look of your MP3 player by downloading a skin program. 3. You can “rip” audio information from a CD by using a recorder program. 4. One can convert a WAV file to MP3 format by using an encoder. 5. You can view the lyrics, notes and author data by clicking on Track Info. 6. MIDI systems store the actual sound.

Task 6. Match each cause and effect, then link them with an -ing clause.

Model: 1) Using MIDI, computers can communicate with synthesizers.

2) A WAV file may sample a song 44.000 times a second, creating a huge mass of information.

Cause	Effect
1. Computers with MIDI interface boards can be connected to MIDI instruments.	a) This permits extra information to be stored on the performer and other track details.
2. Each side of a DVD can have two layers.	b) You can create your own compilation.
3. MP3 removes sounds we can't hear.	c) This allows you to sample a new group before buying their CD.
4. You can download single tracks.	d) This gives an enormous storage capacity.

5. Each MP3 file has a tag.	e) This allows the music being played to be stored by the computer and displayed on the monitor.
6. MP3 players contain several devices.	f) This enables you to change the appearance of your player.
7. You can download a skin program.	g) These allow you to control the way the music sounds.
8. You can legally download some music.	h) This produces much smaller files.

Task 7. Complete each gap in this text with a suitable word from this list.

- | | |
|-------------|----------------|
| a) brains | k) per |
| b) second | l) inaudible |
| c) MP3 | m) file |
| d) hear | n) WAV |
| e) digital | o) minute |
| f) sounds | p) frequency |
| g) sampling | q) compressing |
| h) format | r) sound |
| i) CDs | s) removed |
| j) smaller | t) megabytes |

MP3 is a set of standards for ... (1) and storing ... (2) audio and video. Whereas CDs and ... (3) files require about 11 MB for one minute of sound, ... (4) files give you the same ... (5) quality in a ... (6) which requires only about 1 MB for each ... (7) so a single track takes only three to five ... (8). Computers store sound as digital information. They do this by ... (9) taking a sample of the sound thousands of times ... (10) second. ... (11) store information in a format called CD-DA. This samples 44.000 times per ... (12) and is broadly similar to WAV. MP3 files depend on the fact that our ... (13) do not detect all ... (14). An MP3 encoder removes from a WAV... (15) all but the parts we don't ... (16). Sounds above 16 kHz are ... (17) for the most people so these can be ... (18). Quieter sounds masked by loud sounds of a similar ... (19) are also removed. The result is an MP3 file which is much ... (20) than the WAV original.

Task 8. Translate the following sentences into Ukrainian.

1. One of the problems in dealing with computer-controlled sound and graphics is that the related files require extremely large amounts of storage. 2. Storing graphics, sound and video files on a high-capacity device such as compact disc (CD) is the solution to the problem. 3. These devices store information by etching the encoded data into the same kind of plastic disk used to store and play back popular music. 4. With the emergence of more realistic computer graphics, many people have found the computer's monitor to be a limited output device for displaying them. 5. Early computers were seen primarily for storing and displaying information in the form of numbers and text. 6. After printing or displaying the graph you can see the advantages of the new device. 7. Using computer greatly reduces the amount of time it takes to create presentations that use many different forms of information. 8. They succeeded in

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making a number of multimedia applications. 9. Today, special devices have means of storing video images in digital form on a computer's magnetic media as computer graphics. 10. By rapidly delivering these digital graphics images to the computer screen one after the other we can simulate the kind of video images we see on our television set. 11. Today software companies are busy creating programmes to manage multimedia resources. 12. We insisted on their developing the programs which vary considerably in design, but are all capable of incorporating text, graphics, sound and video into one program. 13. The difficulty was providing special software for dealing with external devices such as CD-ROM drives and videodisc drives and for incorporation of digital video.

Task 9. Unscramble the letters to complete the definitions from an online dictionary.

- 1 dheasenpho _____: device which covers each ear and allows you to listen to audio without other people hearing;
- 2 pertyhtex _____: text with links to other text or other parts of a document or web page;
- 3 Tacvitiyniter _____: allowing two-way communication between a program and the user;
- 4 pormicnohe _____: equipment that allows you to record your voice;
- 5 batscewf _____: a concert or other event broadcast over the Internet.

Task 10. Translate into English

1. Одним з методів скорочення об'єму, що займає музика, є MIDI (Musical Instrument Digital Interface). 2. Файли у форматі MIDI зазвичай містять інструкції типу: «зіграти на такому-то інструменті таку-то ноту протягом такої-то кількості секунд». 3. В результаті MIDI-файли займають незначний обсяг. 4. Проте сам характер представлення звуків не міг повністю задовольнити як користувачів, так і розробників. 5. Потрібно було знайти принципово нове рішення. MIDI- це скоріше не метод запису звуку, а спосіб запису команд, що посилаються музичним інструментам. 6. MIDI-файл (зазвичай це файл з розширенням MID) містить посилання на ноти, а не на запис музики як такий. 7. Коли MIDI-сумісна звукова карта отримує MIDI-файл, карта шукає необхідні звуки в таблиці через ці посилання. 8. Певний інструмент відповідає конкретному посиланню. 9. Так, наприклад, великий барабан визначений цифрою 55. 10. Коли звукова карта знаходить посилання під номером 55, вона видає звук великого барабану. 11. Зразки зберігаються на диску і завантажуються в процесі відтворення звукових сигналів. 12. Крім того, існує можливість для зміни звучання інструментів, а також заміни їх.

Task 11. Read Text B and find answers to the following questions.

1. Is it possible to bring information in the form of graphics, sound and video under computer control?
2. Is there any difference between the videodisk player and compact disk player?
3. Why are multimedia authoring systems widely used to manage the presentation of information?
4. Explain the term 'virtual reality'?

TEXT B. NEW APPLICATIONS OF THE COMPUTER

Among the most exciting new applications of the computer is the ability to bring together information that exists in a variety of forms. New computer tools, often using combinations of hardware and software, are now providing better ways to bring together information that is stored on other media in the form of graphics, sound, and video. These new programs, known collectively as multimedia applications, bring the other media sources under computer control.

CD-ROM - based Multimedia

One of the problems in dealing with computer-controlled sound and graphics is that the related files require extremely large amounts of storage. One solution is to store graphics, sound, and video files on a high-capacity device such as compact disk (CD). Compact disks can store huge amounts of data and the CD drives can be used to deliver this information to the computer's internal memory as data. Because most of these devices cannot be used to record information, they are known as read-only memory (ROM) devices. Although they are used to store computer data, these devices do not use the same kind of magnetic media generally used by computers to store data. Instead, these devices store information by permanently etching the encoded data into the same kind of plastic disk used to store and play back popular music. Because the stored data is deciphered using a laser-based reading device, there is no physical contact with the disk and no possibility of wear to the disk. Their high capacity and permanence are making CD-ROM disks a common storage and delivery tool for multimedia.

Videodisc

The videodisc player is similar to the compact disk player, but the disks used are somewhat different. While the CD disks are used to store and deliver computer data, videodiscs are used to store and deliver video images. They can be used to deliver high-quality video to a television set by displaying the video images in sequence at the same 30-frames-per-second rate that is used in broadcast television. Many videodisc players can be controlled by computer. And because the video images are stored a single image at a time, one image can be displayed under computer control or a sequence of images can be displayed to create the effect of live video.

Digital Video

Most of the video images we are used to seeing on our home television sets were originally captured using a video camera and stored on video tape. But today, special devices make it possible to store video images in digital form on a computer's magnetic media as computer graphics. By rapidly delivering these digital graphics images to the computer's screen one after the other, we can simulate the kind of video images we see on our television set.

Computer-delivered digital video presents many exciting possibilities. Because the video images are stored on normal computer media as data in separate graphics files, there is unlimited potential for editing the video sequence using computer graphics editing methods. And because the video images can be displayed on the computer's screen as graphics, they can be incorporated into presentations that in the past used only still pictures.

Multimedia Authoring Systems

In order to manage the presentation of information that is stored in dissimilar formats, new multimedia-based authoring systems are being developed. These programs vary considerably in design, but all are capable of incorporating text, graphics, sound, and video into one program. These programs provide special tools to manage these resources and to deliver them to the user interactively.

Virtual Reality

With the emergence of ever more realistic computer graphics, many people have found the computer's monitor to be a limited output device for displaying them. Many found the two-dimensional view of modern, complex colour graphics did not fully convey the potential held by this new form of computerized information. This led to the investigation of ways to present and to interact with more realistic, three-dimensional displays. The result was the development of highly realistic displays that provide users with the feeling that they are fully immersed in the computer image. Collectively, these applications have become known by the title of "virtual reality."

GRAMMAR REVIEW.**ADJECTIVES. ADVERBS. PRONOUNS.**

<i>Adjective</i> denotes a quality or a feature of an object.				
Semantic characteristics		Morphological characteristics		Syntactic characteristics
qualitative adjectives (colour, shape) <i>black, round</i> relative adjectives qualify an object indirectly, through its relation to another object <i>woolen, golden</i>		Qualitative adjectives have <i>degrees of comparison</i>		attribute (<i>a poor man</i>) predicative (<i>The man was poor</i>)
Formation				
suffixes				
-able fashionable		-ent patient	-ical physical	-like woman-like
-al magical		-esque picturesque	-ious rebellious	-ly deathly
-ant important		-ful faithful	-ish stylish	-ory sensory
-ar spectacular		-ian Iranian	-ist racist	-ous humorous
-ary disciplinary		-ible terrible	-ive selective	-some bothersome
-ate delicate		-ic melodic	-less faultless	-y sandy
-ial national				
prefixes				
a asexual		im immoral		pre prearranged
ab abnormal		in inactive		pro pro-war
anti antisocial		ir irresponsible		sub sub-zero
dis disinterested		mal maladjusted		super superhuman
hyper hyperactive		non non-existent		un unavailable
il illegible		over overweight		under understaffed

Compound adjectives are formed with: - present participles: <i>a long-playing record</i> - past participles: <i>undercooked meat, cut-off jeans</i> - cardinal numbers + nouns (in singular): <i>a ten-minute journey</i> - well, badly, ill, poorly + past participle: <i>a poorly-kept garden, a well-timed joke.</i>									
Order of adjectives									
	Opinion adjectives	Fact adjectives							
		size	age	shape	colour	origin	material	use for/be about	noun
It's a	beautiful	big	old	round	brown	Italian	oak	dining	table.
Substantivized adjectives									
There are some adjectives that we can use with the to talk about groups of people in society Words that we can use in a phrase with the - to do with social or economic position - to do with physical condition or health - to do with age The young means 'young people in general' When we mean a specific person or a specific group of people, then we use man, woman, people , etc.						<i>the disabled, the blind</i> <i>the disadvantaged, the homeless, the hungry, the poor, the privileged, the rich, the starving</i> <i>the blind, the deaf, the dead, the disabled, the handicapped</i> <i>the elderly, the middle-aged, the old, the over-sixties, the under-fives</i> <i>The young have their lives in front of them.</i> <i>None of the young people in the village can find jobs here.</i>			
Nouns of material, purpose or substance can be used as adjectives.									
Direct meaning						Figurative meaning			
A silk scarf, a stone cottage, a gold pen, a feather duster, a metal chair, a leather wallet, lead pipes, a steel framework.						silky hair, a stony expression, golden hair, feathery leaves, a metallic colour, a leathery skin, a leaden feeling, a steely look.			
Degrees of comparison									
There are three degrees of comparison:						Irregular comparisons			
Positive	Comparative		Superlative			<div><div><i>bad</i> <i>far</i> <i>good</i> <i>little</i> <i>many/much</i> <i>old</i> <i>older</i></div><div><i>worse</i> <i>farther</i> <i>further</i> <i>better</i> <i>less</i> <i>more</i> <i>elder</i> <i>oldest</i></div><div><i>worst</i> <i>farthest</i> <i>furthest</i> <i>best</i> <i>least</i> <i>most</i> <i>eldest</i></div></div>			
dark	darker		darkest						
one-syllable adj: positive form + er & est		<i>bright brighter brightest</i>							
adj of three or more syllables : more & most+ the positive:		<i>interested more interested</i> <i>most interested</i>							
adj of 2 syllables follow one or other of the above rules		<i>doubtful more doubtful</i> <i>most doubtful, clever</i> <i>cleverer cleverest</i>							

<p>farther/farthest & further/furthest both can be used of distances <i>York is farther/further than Selby.</i> Further can be used with abstract nouns to mean ‘additional/extra’ <i>Further discussion/debate would be pointless.</i> Similarly: <i>enquires/delays/demands/information/ instructions.</i> <i>further</i></p>	<p>elder, eldest imply <u>seniority</u> rather than age. They are used for comparison within a family: <i>my elder brother</i> But! Elder is not used with than, so we use older: <i>He’s older than I am.</i> We use eldest for people only, but oldest we use for both people & things.</p>
<p>Before the comparative we should use <i>a bit, a little, slightly, much, a lot, far</i>: English is <i>a bit/ a little/ slightly/ much/ a lot/ far more easier</i> than German.</p>	
<p align="center">Constructions with comparisons</p>	
<p>Positive form => ‘+’ as ... as; ‘-’ not as/not so ... as. <i>He was as white as a sheet.</i> <i>Your coffee is not as/so good as the coffee my mother makes.</i> <i>The new building is twice as high as the old one. – В 2 раза выше</i> Comparative form => than. <i>He’s stronger than I expected = I didn’t expect him to be so strong.</i> Superlative form => the ... in/of: <i>This is the oldest theatre in London.</i> Superlative form + present perfect: <i>This is the worst film I have ever seen.</i> Note! most+adjective without the means very: <i>You’re most kind = You’re very kind.</i> the + comparative... the + comparative: <i>The smaller the house is, the less it will cost us to heat it.</i> Comparatives joined by and: The weather is getting colder and colder.</p>	<p>like + noun & as + noun: <i>He worked like a slave. (very hard indeed)</i> <i>He worked as a slave. (He was a slave)</i> than/as + pronoun+auxiliary <i>I earn less than he does. (=less than he earns)</i> than/as+I/we/you+verb = omit the verb. <i>I’m not as old as you (are).</i> than/as is followed by he/she/it + verb, we normally keep the verb: <i>You’re stronger than he is.</i> But we can drop the verb and use him/her/them: <i>I swim better a him.</i> Adjectives + one/ones One/ones = previously mentioned noun: <i>I lost my old camera; this is a new one.</i> first/second can be used with or without one/ones: <i>Which train did you catch? ~ I caught the first (one).</i> Adjectives of colour can sometimes be used as pronouns: <i>I like the blue (one) best.</i></p>
<p>‘as ...as...’ with ‘twice’, ‘three times’, etc., ‘half’, ‘a third’, etc.: Japan’s car exports <i>are twice as high as Britain’s</i>. Rice-growing is only <i>half as important as it used to be</i>. Note Present and Past Participles can be used as adjectives: Present Participles describe the quality of a noun <i>/annoying behaviour/</i> (what kind of behaviour) Past Participles describe how the subject feels <i>/annoyed teacher/</i> (How does the teacher feel)</p>	
<p align="center">Proverbs & Sayings</p>	

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As dumb as a wooden Indian As easy as ABC As silent as a grave As fit as a fiddle As white as a sheet As stubborn as a mule	Дурний, як пробка Простіше простого Німії, як могила При повному здоров'ї Білий, як крейда Упертий, як осел	As old as the hills Like bull in a China shop To sleep like a log To smoke like a chimney To sell like hot cakes	Старе, як світ. Як слон у посудній лавці Спати, як убитий Диміти, як труба Бути нарозхват
The best is the enemy of the good. (Walter Scott) It's much easier to be critical than to be correct. (Disraeli)			

THE ADVERB

Adverb is a part of speech which describes verbs, adjectives, other adverbs or the whole sentence.		
Formation		
Adverbs are formed with adjectives + -ly : quick – quickly, calm – calmly Adj. ending in consonant + -y → -ily : <i>sleep – sleepily, weary – wearily</i> Adj. ending in -le drop -le & add -ly : <i>irritable – irritably, reliable – reliably</i> Adj. ending in -e add -ly : <i>false – falsely</i> , BUT: <i>whole – wholly, true – truly</i> Adj. ending in -ly (<i>cowardly, elderly, fatherly, friendly, lively, lonely, motherly, silly, ugly</i> etc) form their adv. with -in a(n) ... way (manner) : <i>in a motherly manner, in a lively way</i> etc.		
Semantic classification		
Kinds of adverbs	Position	Example
Manner (bravely, happily, fast, hard, well, beautifully, reluctantly, suspiciously, carefully, angrily, secretly, foolishly, badly, somehow)	After the verb or the object where there is one The short obj.: V+obj.+adv. The long obj.: V+adv.+obj. Foolishly, kindly, stupidly, ...+V	<i>She danced beautifully. They speak E. well.</i> <i>He looked suspiciously at everyone.</i> <i>She carefully picked up all the bits of glass.</i> <i>I foolishly forgot my passport.</i>
Place (by, down, here, near, there, up, away, everywhere, nowhere, somewhere)	After the verb if there is no object V+obj./V+prep.+obj. Here/there+be/come/go+noun subj. Away/down/in/off/out...+V of motion+noun subj.	<i>She went away. Bill is upstairs.</i> <i>She sent him away.</i> <i>Here comes the train.</i> <i>Away went the runners.</i> <i>Out sprang the cuckoo.</i>
Time (now, soon, still, then, today, tomorrow, yet, afterwards, eventually, lately, recently, at one, since then, till)	At the beginning/end of the clause With compound tenses – after the auxiliary V/ V+obj.+ yet/still Be+still +other verbs Just – with compound sentences	<i>Eventually he came/ He came eventually.</i> <i>We will soon be there.</i> <i>He hasn't finished his dinner yet.</i> <i>He is still in bed.</i> <i>I'm just coming.</i>
Frequency (always, usually, often, periodically, repeatedly, occasionally, hardly ever, rarely, seldom, never)	After the simple tenses of to be Before the simple tenses of all other verbs With compound tenses – after the 1 st auxiliary, with interrogative V. – after aux.+subj.	<i>He is always in time for meals.</i> <i>They sometimes stay up all night.</i> <i>He can never understand.</i> <i>Have you ever ridden a camel?</i>

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Degree (fairly, hardly, quite, too, very, absolutely, almost, completely, only, rather)	Before the adj. or adv. Enough follows its adj. or adv. Far requires a comparative/ too+positive	<i>You are absolutely right.</i> <i>The box isn't big enough.</i> <i>It is far better to say anything.</i>
Sentence (certainly, definitely, luckily, actually, apparently, clearly, evidently, obviously, presumably, probably, undoubtedly, perhaps, possibly, sure)	Be+actually/apparently/certainly/clearly etc. Before simple tenses of other verbs After the 1 st auxiliary in a compound verb At the beginning/end of a sentence/ clause	<i>He is certainly intelligent.</i> <i>They actually work hard.</i> <i>They have presumably sold their house.</i> <i>Apparently he knew the town well.</i>
Interrogative (when?, where?, why?)	At the beginning of a sentence	<i>Where have you been?</i>
Relative (when, where, why)	Before the obj.	<i>I want to know where he is.</i>
Morphological classification - degrees of comparison of some adverbs.		
Single-syllable adv. & early add -er,-est : <i>hard-harder-hardest, early-earlier-earliest</i> Adv. of 2 or more syllables – more,most +the positive form: <i>quickly-more quickly-most quickly</i> Irregular comparisons: <i>well-better-best, badly-worse-worst, little-less-least, much-more-most, far-further-furthest/farther-farthest.</i>		
Adjectives & Adverbs which have the same form		
Best, better, big, cheap*, clean,* close*, cold, daily, dead, dear*, deep, direct, dirty, early, easy, extra, far, fast, fine*, free, further, hard, high, hourly, inside, kindly, last, late, long, loud*, low, monthly, past, quick*, quiet*, right, slow, straight, sure, thin*, thick, tight, weekly, well, wide, wrong, yearly etc. <i>Ann was our last guest. She came in last.</i> Those adv. with an asterisk (*) can be found with -ly ending without a difference in meaning, but then they are more formal. Walk slow! (informal) ALSO Walk slowly! (formal)		
Adverbs with 2 forms & differences in meaning		
Deep =a long way down Deeply =greatly Direct =by the shortest route Directly =immediately Easy =gently, slowly Easily =without difficulty Free =without cost (безкоштовно) Freely =willingly	Full =exactly, very Fully =completely Hard =with effort Hardly =scarcely (майже!) High =at/to a high level Last =after all others Lastly =finally	Late =not early Lately =recently Near =close Nearly =almost (ледве не!) Pretty =fairly Prettily =in a pretty way Short =suddenly Shortly =soon
Sure =certainly Surely =without a doubt Wide =off-target Widely =to a large extent Wrong =incorrectly Wrongly =unjustly (wrongly goes before verbs/past part. – wrong/ Wrongly go after verbs)		
Quite-Fairly-Rather-Pretty		
<ul style="list-style-type: none">• Quite (fairly, in some degree) is used in favourable comments. <i>She is quite good at painting.</i> Quite meaning “completely” is used with adv., some verbs & adj. such as: along, amazing, brilliant, certain, dead, dreadful, different, exhausted, extraordinary, false, horrible, impossible, perfect, ridiculous, right, sure, true, useless etc. <i>I'm quite sure he stole the money.</i> Quite is used before a/an. <i>She is quite a good dancer.</i>• Rather is used: a) in unfavourable comments: <i>He is rather mean with money.</i> b) in favourable comments meaning “to an unusual degree”: <i>The lecture was rather informative.</i>(more than we expected) c) with comparative degree: <i>It's rather sunnier today than yesterday.</i>(набагато сонячніше) Rather is used before or after a / an : <i>He is a rather rude person. = He is rather a rude person</i> <ul style="list-style-type: none">• Fairly & pretty are synonymous with quite & rather. They can be used after a. <i>He is a fairly/pretty well-behaved person.</i>		

Patterns with adverbs
Deeply hurt Painfully embarrassed Highly respected / qualified / paid / educated Extremely helpful Bitterly cold Nearly forgot To be short of time *Sadly To fly direct to ...
Proverbs & Sayings
Promise little but do much. If you want a thing well done, do it yourself. A new groom sweeps clean. Actions speak louder than words. Easier said than done. Make haste slowly. To live long it is necessary to live slowly. Of two evils choose the least.

GRAMMAR EXERCISES

Exercise 1. Use the proper degree of adjectives and adverbs.

- 1) This is a nice cat. It's much ____ than my friend's cat.
- 2) Here is Emily. She's six years old. Her brother is nine, so he is ____.
- 3) This is a difficult exercise. But the exercise with an asterisk (*) is the ____ exercise on the worksheet.
- 4) He has an interesting hobby, but my sister has the ____ hobby in the world.
- 5) In the last holidays I read a good book, but father gave me an even ____ one last weekend.
- 6) School is boring, but homework is ____ than school.
- 7) Skateboarding is a dangerous hobby. Bungee jumping is ____ than skateboarding.
- 8) This magazine is cheap, but that one is ____.
- 9) We live in a small house, but my grandparents' house is even ____ than ours.
- 10) Yesterday John told me a funny joke. This joke was the ____ joke I've ever heard.
- 11) My father is heavy. My uncle is much ____ than my father.
- 12) The test in Geography was easy, but the test in Biology was ____.
- 13) Florida is sunny. Do you know the ____ place in the USA?
- 14) Stan is a successful sportsman, but his sister is ____ than Stan.
- 15) My mother has a soft voice, but my teacher's voice is ____ than my mother's.

Exercise 2. Complete the following comparisons.

- 1 Barbara is nearly ... old ... her stepmother.
2. There are more ... two thousand books in my mother's library.

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3. Bob talks just ... his father.
4. Would you be ... kind ... to close the door for me?
5. Do ... I tell you; don't do ... I do.
6. I am not ... naive ... to believe all he promises me.
7. After your heart attack you should walk ... slowly ... possible.
8. The Dnieper is not now ... wide ... it was.
9. I have ... many working hours a week ... any other employee.
10. A shower uses less water ... a bath.
11. On Sundays we don't have to get up ... early ... usual.
12. This house is two times ... big ... the old one.

Exercise 3. Put the adverbs in brackets into the proper place.

1. He listens to the radio. (often)
2. Tom is very friendly. (usually)
3. I take sugar in my coffee. (sometimes)
4. My grandmother goes for a walk in the evening. (always)
5. They watch TV in the afternoon. (never)
6. Have you been to London? (ever)

Exercise 4. Choose the right order of adjectives.

1. He's a _____ doctor.
a) young charming b) charming young
2. I plan on wearing my _____ coat.
a) long black b) black long
3. This is a _____ painting from the 18th century.
a) French well-known b) well-known French
4. She was wearing a _____ dress.
a) green beautiful b) beautiful green
5. The _____ bird! I'm going to help it!
a) poor little b) little poor
6. She prepared a _____ dinner for us.
a) Mexican wonderful b) wonderful Mexican
7. Nagoya is an example of a _____ city.
a) modern Japanese b) Japanese modern
8. He bought himself a _____ truck.
a) big new b) new big
9. Pass me the _____ bowl.
a) plastic round b) round plastic
10. The _____ years were fantastic.
a) two first b) first two

Exercise 5. Complete the given phrases with your own variant.

1. The sooner,
2. The longer the day (is),
3. The more we learn,
4. The more expensive the wedding,
5. The later one goes to bed,
6. The better the idea,
7. The more knowledge you get.....
8. The less chocolate you eat,
9. The more kids you have,
10. The smarter a person is,
11. The longer we study English, ...

Exercise 6. Use the right degree of comparison of the adjectives in brackets.

1. He laughs (good), who laughs last.
2. He who laughs last, laughs (long).
3. Of two evils, choose the (little).
4. My aunt is the (old) of the four sisters.
5. Cats are (clean) than monkeys, but monkeys are (intelligent) than cats.
6. Thank you, you are (kind) today than you were yesterday.
7. Socrates was (wise) Greek of all.
8. Christopher is (friendly) than Ted.
9. Ben is (wealthy) of the three brothers.
10. Edwin was (nice) of the two sons.

Exercise 7. Compare (Writing)

I. two different fruits 2. a cat and a dog 3. two flowers 4. rock music and classical music 5. two academic subjects 6. comedy and tragedy 7. reading and writing 8. being single and being married 9. two of your friends 10. your life now with what it was like ten years ago II. your physical appearance now with the way you looked as a child 12. two movie stars 13. two holidays 14. two of your teachers 15. children with parents.

Exercise 8. Find and correct the mistake

Ex: This is longest book in the library.

This is **the** longest book in the library.

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1. The Atlantic Ocean is not as big the Pacific Ocean.
2. Your hands are dirtier than mine.
3. Albert Einstein is smarter than me.
4. Nobody is rich as the Queen of England.
5. This is the cheaper car on the market.
6. Who is fastest man in the world?
7. That restaurant is best in town.
8. Julia Roberts is more pretty than my grandmother.
9. The Ferrari is the faster car of all.
10. I am as taller as you.
11. Where are the more beautiful beaches in the world?
12. China is bigger India.
13. Athens is one of oldest cities in the world.
14. Who is the better lawyer in town?
15. Is ice heavier than water?

Exercise 9. Translate into English.

1. Ви- моя остання надія.
2. Вона виглядає старше своїх років.
3. Чим ближче іспити, тим більше я нервую.
4. На скільки років ваш чоловік старше вас? - Ми одного віку.
5. У наступний вівторок ми обговоримо наступний пункт програми.
6. Які останні досягнення в цій галузі?
8. На цій виставці представлено останнє (новітнє) обладнання з усього світу.
9. У мене дві близькі подруги: Настя та Ірина. Перша дуже стримана, друга дуже емоційна.
10. Сядь, будь ласка, подалі від телевізора.

PRONOUNS

The pronoun is a part of speech which points out objects and their qualities without naming them.	
Semantic classification	
<ul style="list-style-type: none"> - personal: I, he, she, it, they; him, her, them - possessive: my, his, her, its - reflexive: myself, itself, ourselves - emphatic: himself, herself, themselves - reciprocal: each other, one another - demonstrative: this, these, that, those, such, (the) same - interrogative: who, what, which 	<ul style="list-style-type: none"> - relative: who, whose, which, that, as - defining: each, every, everybody, everyone, everything, all, either, both, other, another - indefinite: some, any, somebody, anybody, something/anything, someone/anyone - negative: no, none, neither, nobody, no one, nothing - quantitative: many, much, few, little
Personal	<p>We use object forms in such sentences: <i>Who's that? ~It's me/us/them.</i></p> <p>'IT': * in 'cleft sentences': <i>It was Peter who drove us home.(not Paul) It was they/them who asked.</i></p> <p>* when an infinitive is a subject of a sentence: <i>It is easy to criticize. It is better to be easy.</i></p>

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	<p>* as a subject for impersonal verbs: <i>it seems, it appears, it looks, it happens</i></p> <p>Note! The coffee is too hot to drink it.</p>	
Possessive	<p>- possessive pronouns can replace possessive adjectives →</p> <p>- of mine = one of my: a friend of mine = one of my friends</p> <p>- possessive adj. are used with <i>injured his back</i>. BUT! If there is a article: <i>I patted him on the back</i>.</p> <p>- possessive to 'each other': We wrote down <i>each other's</i> telephone numbers.</p> <p>- To add emphasis, own can be placed after my, your, his and one's: <i>her own idea, a room of one's own</i>. Note: <i>I'm on my own</i> = <i>I'm alone</i></p> <p>Possessive adjectives + NOUNS Possessive pronouns W/O ANY NOUNS AFTER THEM! <i>my This is my room.</i> <i>your his/her/its</i> <i>our their</i> <i>mine This room is mine.</i> <i>yours</i> clothes & parts of the body: <i>He</i> <i>his/hers</i> preposition before a part of the body we put the <i>ours</i> <i>theirs</i></p>	
Reflexive	<p>- some verbs (to bathe, to dress, to wash, to change clothes) are normally used <u>without reflexive pronouns</u>: <i>I got up, washed, dressed and went to school</i>. BUT! When the action is difficult (for children or disabled) reflexive pronouns are used: <i>Oh, look! Nicky has just dressed himself!</i></p> <p>- after a preposition of place we use me, you, him, her: <i>In the mirror I saw a lorry behind me</i>. (NOT behind myself)</p> <p>- fixed phrases: to feel good/bad (about mood); to feel well/unwell (about health) we use <u>without myself!</u> <i>to enjoy oneself; to teach oneself; to find oneself;</i> <i>Help yourself to something! Make yourself at home! to turn itself on /off</i> Note: <i>He behaved badly</i>. BUT <i>Behave yourself!</i></p>	
Emphatic	<p>Patterns: <i>I grew these vegetables myself.</i> <i>The house itself is small, but the garden is enormous.</i> <i>I'm not myself today.</i> <i>You told me about it yourself!</i></p>	
Reciprocal	<p>A pattern: <i>When we went on holiday, we sent a lot of postcards to each other / one another.</i></p>	
Demonstrative	this/these	that/those
	<p>- people or things near us: <i>This is my pen.</i></p> <p>- present/future situation: <i>I'm going away this weekend.</i></p> <p>- to introduce people or on the phone: <i>This is Ann.</i></p> <p>these days → nowadays, now; this evening → tonight</p>	<p>- people or things not near us: <i>I want those jeans from H&M.</i></p> <p>- past situations: <i>That was a holiday of a lifetime!</i></p> <p>- to refer back to smth mentioned before: <i>That's what I meant!</i> on the phone: <i>Who's that?</i></p>
Interrogative	<p>In formal English we use preposition + whom: With whom did you go? In spoken English we usually move the preposition to the end of the sentence, with whom changing to who: Who did you go with?</p>	
	which	what
	<p>- when there's a <u>limited choice</u> we ask which: Which size do you want – small, medium or large?</p>	<p>- when there is an <u>unlimited choice</u> we ask what: What is your shoe size?</p>
	<p>- before of & one we can use which, but not what: Which <u>of</u> the countries in Europe have you visited? Which <u>of</u> you knows the answer? (NOT Who of you...)</p>	
	what & how in questions about measurements	
	what	how
	<p>- what + age / depth / height / length / width</p> <p>- what is a general interrogative used for things: What makes that noise?</p> <p>- What... for = 'why': What did you do that for?</p>	<p>- How + old / deep / high / tall / long / wide</p> <p>- to ask about manner How did you get on in the exam? ~Quite well, I hope!</p> <p>We ask questions with 'how' for:</p>

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	<p>- What+be...like? <i>What was the exam like?</i> ~It was very difficult.</p> <p>- What does he/she/it look like? <i>What does she look like?</i> ~She's tall and glamorous.</p> <p>- What is he? = 'What is his profession?' <i>What is his father?</i> ~He is a tailor.</p> <p>NOTE! <i>What is it called?</i> (NOT How is it called?) <i>What was the trip like?</i> →</p>	<p>- introductions: How do you do? answered by How do you do?</p> <p>- health: How are you? How have you been?</p> <p>- personal reactions: How was the film?</p> <p>- offers and suggestions: How about a drink? (= What about a drink?) How would you like to have lunch with us?</p> <p>How was the trip?</p>
Relative	<p>Subject Object Possessive For persons who, that whom (very formal) / that (who / -) whose For things which, that which, that whose / of which (all / everybody / everyone / no one + that)</p>	<p>Examples</p> <ol style="list-style-type: none"> 1. The man who robbed you has been arrested. 2. Everyone who/that knew him liked him. 3. The man whom I saw told me to come back OR The man who/that I saw... OR The man I saw... 4. The man to whom I spoke was 30. (formal) The man (that/who/whom) I spoke to was 30. (inf.) 5. The film is about a spy whose wife betrays him.
Defining	<p>All or every? All = a number of people or things considered as a group Every = a number of people or things considered individually</p> <p>Each or every? - each = a number of persons or things considered individually <i>Each man had a weapon</i> = the speaker went to each man and checked that he had a weapon. - every has the <u>same</u> meaning but there is <u>less emphasis</u> on individual. <i>Every man had a weapon</i> = the speaker counted the men & the weapons & he had the same number of each. - every is used with nouns in the meaning of total, complete (<u>chance, hope, reason, sympathy, right, confidence</u>) <i>You have every right to be here.</i> – <i>Ти маєш повне право тут бути..</i> - each is used when we have the choice <u>from two things</u> only! <i>There were tears streaming down each side of her face.</i> Each + of these/those, the of can't be omitted; each of you = you each</p> <p>- everyone/everybody + singular verb: <i>Everyone <u>is</u> ready</i> (NOT All the people are ready) - everything + singular verb: <i>Everything <u>has been</u> wasted</i> (NOT All the things have been wasted) Note! The expressions all (the people), all (the) things are possible when followed by <u>a noun, pronoun or a clause</u>: - all + noun: <i>All the people <u>in the room</u> clapped. I got all the things <u>you asked for</u>.</i> - all + pronoun: <i>All (both) <u>of us</u> went there. (= We all (both) went there.)</i> - all + (that): <i>All that I want <u>is</u> to have a rest now.</i></p> <p>We use whole most often with <u>singular countable nouns</u>; we use all most often with <u>uncountable & plural nouns</u>: <i>a whole <u>concert</u> – all the <u>music</u>; a whole <u>plate</u> – all the <u>food</u></i> We use the whole of before the names of places: <i>the whole of Europe.</i> Note! <i>The whole night BUT all the night/day/time/life.</i> Patterns: Tell me all about it. They left me all alone. That's all.</p> <p>Other(s) & Another</p> <p>When other is used <u>before a plural noun</u>, it <u>doesn't have –s</u>.</p>	<p>Both = one and the other Both+plural verbs: <i>Both doors were open.</i> Both of + us/you/them: <i>Both of us knew him.</i> Both ... and ... – как ... так и ...; и... и <i>He both acts and directs.</i></p> <p>- we can use another to mean 'one more'. But</p>

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	When other is used <u>without a noun</u> , it <u>has –s in the plural</u> . <i>Tell the other <u>people</u>. Tell the others.</i>	with <u>uncountables & plurals</u> , we generally use other to mean ‘more’: <i>Have another <u>potato</u>. Have some more <u>meat</u>.</i> - another + few, another + a number with a <u>plural noun</u> . <i>Let’s wait another few minutes = <u>ще декілька хвилин</u></i>
Negative	Neither/Either - neither = not one and not the other; + an affirmative singular verb : <i>I’ve read neither of these books.</i> - either = any of two; + an affirmative singular verb : <i>Would you like either of these?</i> - either + negative verb can <u>replace</u> neither + affirmative : <i>I haven’t read either of these books.</i> - neither... nor + affirmative verb is an emphatic way of combining two negatives: <i>He neither wrote nor phoned.</i> - either... or is used to express alternatives emphatically: <i>You can have either tea or fruit juice.</i> (not both) Note! Either/neither = the choice from two things/people: <i>Neither of his parents knew what he had done.</i> - None = for all things: <i>They asked for a reason, but none have been given.</i> None of you – ніхто з вас (NOT nobody of you)	
Indefinite	SOME is used: - with affirmative verbs: <i>They bought some honey.</i> - in questions where the answer ‘yes’ is expected: <i>Did some of you sleep on the floor?</i> (I expect so). - in offers & requests: <i>Would you like some wine?</i> - some = unknown: <i>Some idiot broke my window!</i>	ANY is used: - with negative verbs: <i>I haven’t got any matches.</i> - with hardly, barely, scarcely (which are almost negatives): <i>I <u>hardly</u> have any spare time.</i> - with without when without any = without no : <i>He crossed the frontier <u>without</u> any difficulty.</i> - with questions except offers & requests: <i>Have you got any money?</i> - after if/whether & in expressions of doubt: <i>If you need any more money, please let me know.</i> - in imperative sentences: <i>Take any book you like.</i>

whoever, whichever, whatever, whenever, wherever, however	Patterns: <i>I will win whatever happens. However rich you are you can’t buy happiness. Whichever of you broke the window will have to pay for it. I’ll find him, wherever he has gone. (= no matter where he has gone)</i>
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Exercise 10. Fill in the gaps with the correct subject or object pronoun.

- Do your brothers play football?
Yes, *they* play all the time. think’s a brilliant game.
- Does Susan eat chocolate?
Yes, eats..... all the time. Says’s her favourite food.
- Do your parents know Mr. Jones?
Yes, know very well. lives next door to
- Does Clare like David?
No, doesn’t like very much. says’s too noisy.
- Do you listen to rock music?
Yes, listen to all the time. think’s fantastic.
- Does Tony enjoy fishing?
Oh, yes. enjoys very much. says relaxes him.

Exercise 11. Fill in the correct possessive adjective or pronoun.

1. Have you met your new neighbours yet?
No. I've seen children in the garden, though.
2. You took coat home last night.
I know, I'm sorry. I thought it was because they are both black.
3. What's wrong with Rosie?
Oh, she's been having problems with back recently.
4. James is doing well at school.
I know. teacher says he's very advanced for his age.
5. Is this bag ?
Oh, yes, thank you. I nearly forgot it.
6. Julie and Frank are so lucky. house is beautiful.
Yes, and it's so much bigger than I envy them.
7. I like shirt. It's like Sandra's.
Actually, it is I borrowed it from her yesterday.
8. Why did you lend Tom car?
Because is being repaired at the moment.

Exercise 12. Fill in *its* or *it's*.

1. The car is nice to drive, but I don't like *its* colour.
2. This town is wonderful. Got lots of shops!
3. I'm staying at home today because cold outside.
4. Let's go in here. my favourite restaurant.
5. A bird has built nest in our garden.
6. The company I work for has changed name.

Exercise 13. Fill in the gaps with *of* where necessary, and *my*, *your*, etc. *own*.

1. John doesn't live with his parents any more. He's got a flat *of his own*.
2. She doesn't travel by bus any more because she's got car.
3. I don't need to borrow your umbrella. I've got one
4. Haven't you got pen? You're always borrowing mine.
5. My job includes doing research in time.
6. Sam is tired of using his friend's computer, so he is going to buy one
7. The couple moved into house after they got married.

Exercise 14. Fill in the gaps with the correct reflexive pronoun.

1. The girl has hurt *herself*.
2. He put the fire out by

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3. She is looking at in the mirror.
4. They are serving
5. He cooked the food by
6. They bought this house for
7. They are enjoying
8. He introduced
9. Did you buy that bag for your sister?
No, I bought it for
10. Did Susan paint that picture for Lee?
No, she painted it for

Exercise 15. Fill in the gaps with both, all, neither, either or none.

Dear Beth,

Thank you for your letter. It was good to hear 1) *all* your news. I get lots of letters, but 2) of them cheer me up as much as yours.

Bill and I are 3) very tired at the moment. He's very busy because he's been promoted to manager of his firm. I've started a new job, so I don't have much spare time, 4) I love my job and 5) of people I work with are friendly, but the long hours seem to take up 6) of my energy.

My parents are coming to visit us tomorrow. 7) of them have seen the new house yet, so I'll have to show them 8) around. Bill has decorated the 9) of the rooms, so 10) of them looks the way they did when we moved in. I hope 11) you and Toby will be able to visit us again soon, then you can see 12) the changes.

Write soon. I'm looking forward to 13) hearing from you or seeing you soon.

With love,

Jane

Exercise 16. Rewrite the sentences using both....and, neither nor or either or.

1. John hasn't got any money. Paul hasn't got any, either.
Neither John nor Paul has got any money.
2. Marion likes swimming. Linda likes swimming, too.
.....
3. Carol doesn't go to the gym. Anne doesn't, either.
.....
4. Fiona has got curly hair. Angela has got curly hair, too.
.....
5. John will go to the shop, or else I will.
.....
6. Claire is going to pick the children up, or else Simon is going to.
.....

Exercise 17. Fill in the gaps with the correct pronoun.

1. This food is wonderful.
Yes, but don't eat so fast. You'll make *yourself* ill.
2. What shall we do tonight?
Well, Caroline has invited to her house. Shall go?
3. Is that Mary and Alex's car?
No, is blue.
4. Is that bird alright?
No. I think wing is broken.
5. Is that your sister's new leather jacket?
Yes. And those black leather trousers are, too.
6. Should I leave my job?
Well, the decision is, but I wouldn't advise it.
7. Has Adam gone out?
Yes. I told not to come home late.
8. Is this David's jacket?
No, it's I bought it yesterday.

Exercise 18. Translate the sentences.

1. Ми записали номери телефонів один одного.
2. Ти поранився? — Так, я порізався.
3. Нам потрібна ціла хлібина, щоб зробити сендвічі для всіх.
4. Кожного з нас оглянув лікар.
5. Мені не подобається жодна з цих картин.
6. Ніхто з моїх друзів не дзвонить мені більше.
7. Хто з вас говорить німецькою? — Марія.
8. Який твій? — Той.
9. Я сам навчився грати на гітарі, у мене ніколи не було занять.
10. Усі написали тест, чи ні?

WRITING

1. Multimedia programs bring a variety of media resources under the control of the computer. Describe the different types of media that are now being used in multimedia programs.
2. What is digital audio? How is it used?
3. Many experts believe that multimedia will play an important role in future. Describe how multimedia may be used in different spheres of human life.

UNIT 9
DATA PROCESSING

Vocabulary Bank Unit 9

Task 1. Read, write the translation and learn the basic vocabulary terms:

- | | |
|----------------------------|--------------------------|
| 1. accuracy | 22. manner |
| 2. additional | 23. manual |
| 3. ancient | 24. marvel |
| 4. available | 25. meaningful |
| 5. capability | 26. objective |
| 6. challenge | 27. record |
| 7. communications networks | 28. related |
| 8. comprehensive groupings | 29. resource |
| 9. correctly | 30. sequence |
| 10. cost-effective | 31. successively |
| 11. data processing | 32. to accomplish |
| 12. data storage hierarchy | 33. to consume |
| 13. definition | 34. to convert |
| 14. equipment | 35. to eliminate |
| 15. error-prone | 36. to house |
| 16. facilities | 37. to remain vulnerable |
| 17. in order to | 38. to respond |
| 18. initial processing | 39. to retrieve |
| 19. instant response | 40. unorganized |
| 20. invalid data | 41. value |
| 21. item | 42. visual display |

TEXT A. DATA PROCESSING AND DATA PROCESSING SYSTEMS

The necessary data are processed by a computer to become useful information. In fact this is the definition of data processing. Data are a collection of facts — unorganized but able to be-organized into useful information. Processing is a series of actions or operations that convert inputs into outputs. When we speak of data processing, the input is data, and the output is useful information. So, we can define data processing as a series of actions or operations that convert data into useful information.

We use the term data processing system to include the resources that are used to accomplish the processing of data. There are four types of resources: people, materials, facilities, and equipment. People provide input to computers, operate them, and use their output. Materials, such as boxes of paper and printer ribbons, are consumed in great quantity. Facilities are required to house the computer equipment, people and materials.

The need for converting facts into useful information is not a phenomenon of modern life. Throughout history, and even prehistory, people have found it necessary to sort data into forms that were easier to understand. For example, the ancient Egyptians recorded the ebb and flow of the Nile River and used this information to predict yearly crop yields. Today computers convert data about land and water into recommendations to farmers on crop planting. Mechanical aids to computation were developed and improved upon in Europe, Asia, and America throughout the seventeenth, eighteenth, and nineteenth centuries. Modern computers are marvels of an electronics technology that continues to produce smaller, cheaper, and more powerful components.

Basic data processing operations

Five basic operations are characteristic of all data processing systems: inputting, storing, processing, outputting, and controlling. They are defined as follows.

Inputting is the process of entering data, which are collected facts, into a data processing system. Storing is saving data or information so that they are available for initial or for additional processing. Processing represents performing arithmetic or logical operations on data in order to convert them into useful information. Outputting is the process of producing useful information, such as a printed report or visual display.

Controlling is directing the manner and sequence in which all of the above operations are performed.

Data storage hierarchy

It is known that data, once entered, are organized and stored in successively more comprehensive groupings. Generally, these groupings are called a data storage hierarchy. The general groupings of any data storage hierarchy are as follows.

1) Characters, which are all written language symbols: letters, numbers, and special symbols. 2) Data elements, which are meaningful collections of related characters. Data elements are also called data items or fields. 3) Records, which are collections of related data elements. 4) Files, which are collections of related records. A set of related files is called a data base or a data bank.

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Task 2. Answer the following questions.

1. What is processing? 2. What is data processing? 3. What does the term of data processing system mean? 4. What basic operations does a data processing system include? 5. What is inputting / storing / outputting information? 6. What do you understand by resources? 7. How did ancient Egyptians convert facts into useful information? 8. When were mechanical aids for computation developed? 9. What does a data storage hierarchy mean? 10. What are the general groupings of any data storage hierarchy?

Task 3. Find the English equivalents for the following Ukrainian word combinations.

Системи обробки інформації; визначення (терміну) обробки даних; сукупність фактів; послідовність дій; перетворення вхідних даних у корисну інформацію; включати ресурси; завершити обробку даних; забезпечувати введення інформації в комп'ютер; стрічки принтера; витрачати у великій кількості; розміщувати комп'ютерне обладнання; потребувати (вимагати) у пристосуваннях; явище сучасного життя; протягом доісторичного періоду; відливи і припливи; прогнозувати врожай зернових культур; механічні засоби обчислення; введення даних; зберігання даних; первісна обробка даних; додаткова обробка; видача корисної інформації; надруковане повідомлення; зорове відображення; послідовність запам'ятовування інформації; елементи інформації; база даних.

Task 4 . Give the Ukrainian equivalents for:

Data resource; storage resource; network resource; security resource; system resource.
Communication facilities; data base facilities; display facilities; management facilities.
Distance control; device control; keyboard control; position control; program control.
Computer storage; laser storage; file storage; disk storage; data storage hierarchy.
Character sequence; instruction sequence; message sequence; pulse sequence.
Batch file; catalogue file; data file; help file; input file; output file; menu file; user file.
Command input; data input; disk input; file input; keyboard input; program input.

Task 5. Match the term with the definition

1. A computer	a) a set of instructions that direct
2. Computer literacy	the operations of computers;
3. A program	b) a part of a computer, entering
4. Data	data into the device;
5. Data Processing System	c) facts unorganized but able to be
6. Data processing	organized;
7. Input	d) the output of a data processing system;
8. Output	e) possessing sufficient knowledge of how computers work and what
9. A visual display	they can do to use them as problem-solving tools;
10. Data bank information	f) a series of operations that results

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	<p>in the conversion of data system into useful information;</p> <p>g) an electronic device performing calculations on numerical data;</p> <p>h) an electronic device accepting the data processing results from the computer and displaying them;</p> <p>i) a set of related files;</p> <p>j) the resources required to accomplish the processing of data.</p> <p>These resources are personnel, material, facilities and equipment.</p>
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Task 6. Translate the sentences into Ukrainian:

1. Data are processed to become useful information. 2. We use the term data processing to include the resources applied for processing of information. 3. The resources required for accomplishing the processing of data are called a data processing system. 4. Processing is a series of operations converting inputs into outputs. 5. Facilities are required to house the computer equipment. 6. Egyptians used the information to predict crop yields. 7. The information to be put into the computer for processing should be coded into ones and zeroes. 8. Processing is operations on data to convert them into useful information. 9. The first machines designed to manipulate punched card data were widely used for business data processing. 10. Hollerith built one machine to punch the holes and the other to tabulate the collected data.

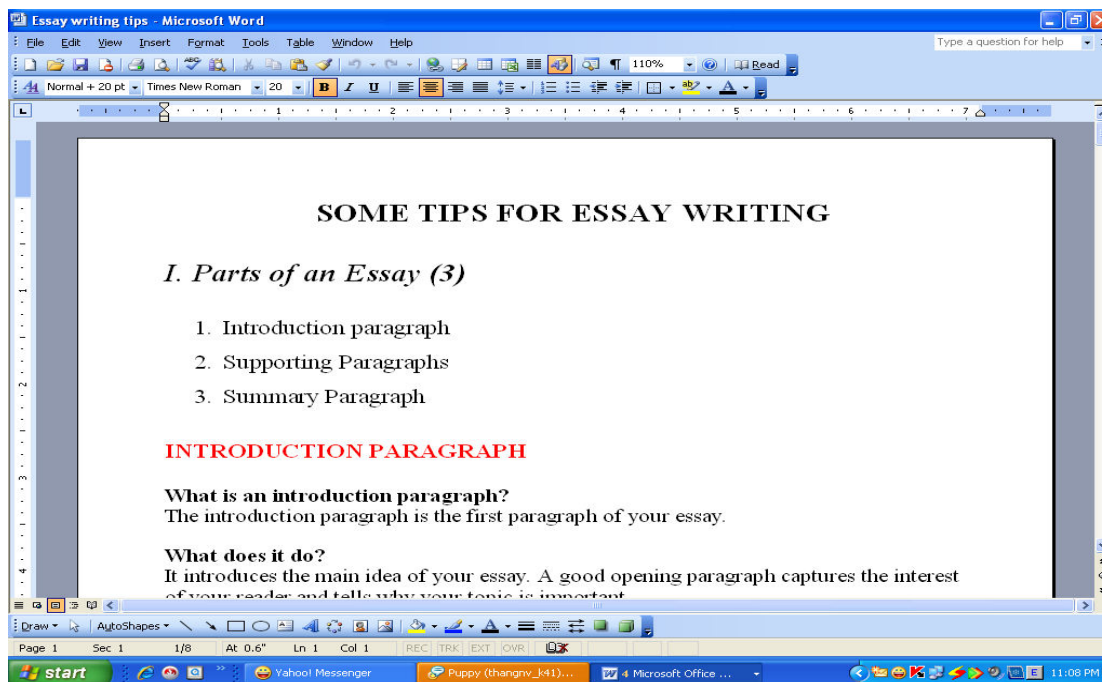
Task 7. Match these words with their definitions.

1. A word processor	a. allows you to direct the word processor to search for a particular word or phrase
2. Font specifications	b. allows you to include illustrations and graphs in a document
3. A layout	c. allows you to merge text from one file into another file
4. Graphics	d. allows you to check the spelling of words
5. Merging	e. allows you to change fonts within a document
6. A spell checker	f. allows you to search for synonyms without leaving the word processor
7. A thesaurus	g. allow you to specify different margins within a single document and to specify various methods for indenting paragraphs
8. Find and replace	h. a program used for preparing documents and letters
9. Word wrap	i. makes inputting a text much easier and then using a typewriter

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TEXT 9B. WORD PROCESSING FACILITIES START UP

Describe what you see in the picture of a window below.



Writing letters, memos or reports are the ways most people use computers. They manipulate words and a text on a screen – primarily to print at some later time and store for safe keeping. Computers alleviate much of the tedium associated with typing, proofing and manipulating words. Because computers can store and recall information so readily, documents need not be retyped from scratch just to make corrections or changes. The real strength of word processing lies in this ability to store, retrieve and change information. Typing is still necessary (at least, for now) to put the information into the computer initially, but once in, the need to retype only applies to new information.

Word processing is more than just typing, however. Features such as Search and Replace allow users to find a particular phrase or word no matter where it is in a body of text. This becomes more useful as the amount of text grows.

Word processors usually include different ways to view the text. Some include a view that displays the text with editor's marks that show hidden characters or commands (spaces, returns, paragraph endings, applied styles, etc.) Many word processors include the ability to show exactly how the text will appear on paper when printed. This is called WYSIWIG (What You See Is What You Get, pronounced "wizzy-wig"). WYSIWIG shows bold, italic, underline and other style characteristics on the screen so that the user can clearly see what he or she is typing. Another feature is the correct display of different typefaces and format characteristics (margins, indents, super- and sub-scripted characters, etc.). This allows user to plan the document more accurately and reduces the frustration of printing something that doesn't look right. Many word processors now have so many features that they approach the capabilities of layout applications for desktop publishing. They can import graphics, format multiple columns of text, run text around graphics, etc.

Two important features offered by word processors are automatic hyphenation and mail merging. Automatic hyphenation is the splitting of a word between two lines so that the text will fit better on the page.

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The word processor constantly monitors words typed and when it reaches the end of a line, if a word is too long to fit, it checks that word in a hyphenation dictionary. This dictionary contains a list of words with the preferred places to split it. If one of these cases fits part of the word at the end of the line, the word processor splits the word, adds a hyphen at the end and places the rest on the next line. This happens extremely fast and gives text a more polished and professional look.

Mail merge applications are largely responsible for the explosion of 'personalized' mail. Form letters with designated spaces for names and addresses are stored as documents with links to lists of names and addresses of potential buyers or clients. By designating what information goes into which blank space, a computer can process a huge amount of correspondence substituting the 'personal' information into a form letter. The final document appears to be typed specifically to the person addressed.

Many word processors can also generate tables of numbers or figures, sophisticated indices and comprehensive tables of contents.

Task 8. Answer the following questions.

1. What is a word processor?
2. What makes word processors superior to traditional typewriters?
3. Name the ability of word processors to show how the text will appear on paper.
4. What do the letters WYSIWYG stand for?
5. Describe two important features offered by word processors.
6. What word-processing feature is responsible for "personalized" mail?

Task 9. Mark these statements as True or False.

1. When you get to the end of each line, Word starts a new line automatically. This feature is called word wrap.
2. Documents have to be retyped to make corrections or changes.
3. The user can plan the document more accurately by means of format characteristics.
4. The word processor monitors words typed and when it reaches the end of a line...
5. Some word processors can generate tables of numbers, indices and tables of contents.

Task 10. Find the English equivalents to the following word combinations.

на екрані; полегшувати; відшукувати інформацію; вид, проекція (тексту); розлад (планів); розділити слово (для переносу); підходити, відповідати; контролювати; бути відповідальним за що-небудь; підставляти, замінювати; складні індекси

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Task 11. Look at the words in the box and complete the following sentences with them. Use the information in the text.

type style, WYSIWYG, format, indent, font menu, justification, mail merging

1. ... stands for 'What you see is what you get'. It means that your printout will precisely match what you see on the screen.
2. ... refers to the process by which the space between the words in a line is divided evenly to make the text flush with both left and right margins.
3. You can change font by selecting the font name and point size from the
4. ... refers to a distinguishing visual characteristic of a typeface; 'italic', for example is a ... that may be used with a number of typefaces.
5. The ... menu of a word processor allows you to .set margins, page numbers, spaces between columns and paragraph justifications.
6. ... enables you to combine two files, one containing names and addresses and the other containing a standard letter.
7. An ... is the distance between the beginning of a line and the left margin, or the end of a line and the right margin. An indented text is usually narrower than a text without

Task 12. Complete the following conversation with the given words

<i>finally</i>	<i>command</i>	<i>first</i>	<i>Edit</i>
<i>now</i>	<i>mistake</i>	<i>next</i>	<i>insert</i>

A: Do you know how I can move this paragraph? I want to put it at the end of this page.

B: Er.. I think so. (1)..... you use the mouse to select the text that you want to move...and then you choose the Cut..... (2) from the Edit menu..

A: Like this?

B: Yes. The selected text disappears and goes onto the Clipboard. And (3).....you find where you want the text to appear and you click to position the (4).....point in this place.

A: Mm.. is that OK?

B: Yes, if that's where you want it. (5)..... choose Paste from the (6).....menu, or hold down Command and press V. (7).....check that the text has appeared in the right place.

A: What do I do if I make a (8).....?

B: You can choose Undo from the Edit menu which will reverse your last editing command.

A: Brilliant! Thanks a lot.

Task 13. Read the text below:

ADVANTAGES OF COMPUTER DATA PROCESSING

Computer-oriented data processing systems or just computer data processing systems are not designed to imitate manual systems. They should combine the capabilities of both humans and computers. Computer data processing systems can be designed to take advantage of four capabilities of computers.

1. Accuracy. Once data have been entered correctly into the computer component of a data processing system, the need for further manipulation by humans is eliminated, and the possibility of error is reduced. Computers, when properly programmed, are also unlikely to make computational errors. Of course, computer systems remain vulnerable to the entry by humans of invalid data.

2. Ease of communications. Data, once entered, can be transmitted wherever needed by communications networks. These may be either earth or satellite-based systems. A travel reservations system is an example of a data communications network. Reservation clerks throughout the world may make an enquiry about transportation or lodgings and receive an almost instant response. Another example is an office communications system that provides executives with access to a reservoir of data, called a corporate data base, from their personal microcomputer work stations.

3. Capacity of storage. Computers are able to store vast amounts of information, to organize it, and to retrieve it in ways that are far beyond the capabilities of humans. The amount of data that can be stored on devices such as magnetic discs is constantly increasing. All the while, the cost per character of data stored is decreasing.

4. Speed. The speed, at which computer data processing systems can respond, adds to their value. For example, the travel reservations system mentioned above would not be useful if clients had to wait more than a few seconds for a response. The response required might be a fraction of a second.

Thus, an important objective in the design of computer data processing systems is to allow computers to do what they do best and to free humans from routine, error-prone tasks. The most cost-effective computer data processing system is the one that does the job effectively and at the least cost.

Task 14. Find the equivalents from the text.

Система обробки інформації комп'ютером; система орієнтування на обробку даних комп'ютером; поєднувати можливості людини і машини; обмежувати управління; навряд чи допустять помилку; залишатися вразливим; неприпустимі дані; легкість здійснення зв'язку; мережа передачі інформації; системи, засновані на використанні супутників; отримати миттєву відповідь; наводити довідки; сховище даних; корпоративна база даних; обсяг пам'яті; запам'ятовувати величезну кількість інформації; витягувати інформацію; додати значимості; згаданий вище; частка секунди; схильний до помилок.

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Task 15. Translate the words.

To eliminate: elimination; eliminable; eliminator; unlimited.

To respond: respondent; response; responsible; irresponsible; responsibility.

Accuracy: inaccuracy; accurate; inaccurate; accurately.

Correctly: correct; incorrect; to correct; correction; correctional; corrective; corrector.

Vulnerable: invulnerable; vulnerability; invulnerability.

Invalid: valid; invalidity; validity;

Access: accessible; inaccessible; accessibility; inaccessibility.

GRAMMAR REVIEW

THE MODAL VERBS (MV) CAN/COULD

Meaning	Forms of the MV	Forms of the infinitive	Kinds of sentences	Some other ways of expressing the same meaning	Sentence patterns
1. Ability, capability	can (can't) – the Present Tense could (couldn't) – the Past Tense	Indefinite Infinitive	affirmative interrogative negative	to be able to, to know how to do smth, to have the ability to do smth.	He can perform complicated operations. He is a very skilful surgeon. Can she swim well? He could not feel or hear anything.
2. Possibility due to circumstances	can (can't) – the Present Tense could (couldn't) – the Past Tense	Indefinite Infinitive	affirmative interrogative negative	to be able to, it's possible to do smth	At a chemist's shop you can get medicines of all kinds. I can go to the seaside this summer if I have enough money.
3. a) Permission b) Request	can – the Present Tense could – the Past Tense in Reported Speech	Indefinite Infinitive	affirmative interrogative	to permit, to be allowed	The doctor said: "You can take long walks early in the morning" Can (could) you

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c)Prohibition	can could (<u>a</u> <u>polite</u> <u>request</u>) can't	Infinitive Indefinite Infinitive	negative		give me some medicine for my headache? You can't visit him, he has an infectious disease.
4. Unreality	could – the Subjunctiv e II Form	The Indefinite Infinitive refers the action to the present or future. The Perfect Infinitive indicates the action which was not carried out in the past	affirmative interrogative negative	would be able to do smth; would have been able to do smth	Why don't you want the doctor to come? He could prescribe some medicine to bring down the fever (if he came). You could have stayed in bed for a few days. But you didn't.
5. Uncertainty, doubt, astonishment	can/could	The Indefinite Infinitive refers the action to the present or future. The Continuous Infinitive refers the action to the present. The Perfect Infinitive refers the action to the past. The Perfect Continuous Infinitive denotes an action begun in the past and	interrogative (general questions)	Is it possible that ... ? Do you believe that ...?	Can (could) he be her husband? He is twice as old as she is.
					Can (could) she still be running a high temperature? Can (could) he have been operated on ? Can (could) they have been keeping to a diet for a few years?

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		continued into the moment of speaking			
6. Incredulity, improbability	can't/ couldn't	Indefinite Infinitive Continuous Infinitive Perfect Infinitive Perfect Continuous Infinitive	negative	It's hardly possible that; I refuse to believe that; I don't think it's possible that; it's next to impossible that; I don't believe that; I doubt that; It's incredible (doubtful) that	He can't (couldn't) be her husband. She can't (couldn't) be still running a high temperature. He can't (couldn't) have been operated on. They can't (couldn't) have been keeping to a diet for a few years.
7. For emotional colouring	can/could (in present time contexts)	Indefinite Infinitive Continuous Infinitive Perfect Infinitive Perfect Continuous Infinitive	interrogative (special questions)		What can (could) you know of such things? What can (could) they be speaking about? How can (could) you have made such a mistake? What can (could) he have been doing all this time?

N o t e s

I. Remember the following **set phrases** with the verb **can**:

1. **CAN'T/COULDN'T + HELP + DOING smth**

e.g.: She **can't help crying**. – Вона **не може не** плакати.

2. **CAN'T/COULDN'T +BUT + INFINITIVE (without "to")**

e.g.: I **can't but ask** about it. – Мені нічого іншого не залишається, як запитати вас про це. They **couldn't but refuse** him. – Їм нічого іншого не залишається, як відмовити йому.

II. The Ukrainian sentences of the type "*Невже він не помітив вас? Не може бути, щоб він не помітив вас. Невже йому тут не подобається? Не може бути, щоб йому тут не подобалось*" are rendered in English in the following ways:

1. **Can (could)** he **have failed** to notice you? 2. **Can (could)** he **dislike** it here? 3. **Can (could)** nobody **have seen** him do it? 4. **Can (could)** he **have never got** my letter? 5. **Can (could)** it **be** that he **didn't notice** you? 6. He **can't (couldn't) have failed** to notice you. 7. He **can't (couldn't) dislike** it here.

MAY/MIGHT

Meaning	Forms of the MV	Forms of the infinitive	Kinds of sentences	Some other ways of expressing the same meaning	Sentence patterns
1. a) Permission b) Request c) Prohibition	a) may – the Present Tense b) might – the Past Tense a) may – the Present Tense b) might – the Past Tense c) might – the Subjunctive II Form may not	Indefinite Infinitive Indefinite Infinitive Indefinite Infinitive	affirmative interrogative negative	to be permitted, to be allowed 	a) I have got two historical novels. So you may take one of them. b) Mother said you might take some oranges. a) May I see him in the hospital on Tuesday? b) He asked me if he might rest for an hour. c) Might I spend the weekend with you? - May I have a look at the picture? - No, you may not . I don't want you to.
2. Possibility due to circumstances	a) may – the Present Tense b) might – the Past Tense	Indefinite Infinitive	affirmative		a) Let's meet at five o'clock at the post-office if the place and time are convenient to everybody. We may get there by bus. b) He said he might get to work by the Metro.
3. Unreality	might – the Subjunctive II Form	Perfect Infinitive	affirmative		If he had arrived an hour earlier, he might have had a good night's rest. Luckily I didn't join them in their walk. It was very windy and I might have caught cold.

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4. Disapproval or reproach	might – the Subjunctive II Form	Indefinite Infinitive Perfect Infinitive	affirmative		Your child is shivering with cold. You might be more attentive to him. Tell him to put on his jacket. You answered his invitation with cold refusal. You might have invited me to this lecture.
5. Supposition implying uncertainty, doubt	may/might	Indefinite Infinitive Continuous Infinitive Perfect Infinitive Perfect Continuous Infinitive	affirmative negative		She looks pale. She may (might) be ill , but I think she may/might not have a high temperature. I think the doctor may/might be examining the patient now. Nick is missing today. He may/might have been taken ill . She may have been staying in bed for a week.

NEED

Meaning	Forms of the MV	Forms of the infinitive	Kinds of sentences	Some other ways of expressing the same meaning	Sentence patterns
1. Necessity	need	Indefinite Infinitive	affirmative (not typical) interrogative	necessary	Need I answer the question?
2. Absence of necessity	needn't	1. Indefinite Infinitive 2. Perfect Infinitive (expresses an action which was performed though it was necessary)	negative	There is no need to do it. It's not necessary to do it. There is no necessity to do it.	The teacher needn't explain such simple things. The pupils know them. We needn't have brought our grammar books today. We are having a class in phonetics instead.

N o t e s

1. When rendering in Russian “не нужно было” use “**needn’t have done**” to show that the action was performed though it was not necessary. Use “**didn’t have to do**” to indicate that the action was not performed as there was no obligation. **e.g.:** He **needn’t have** bought the book (but he did). It is available at the library. I **didn’t have to buy** the textbook (and I didn’t) as I had it at home.
2. In negative sentences negation is not always associated with the verb “**need**”, it may be found elsewhere in the sentence, e.g.: I ***don’t think*** we **need continue** our talk. They **need hardly discuss** the problem again.

MUST

Meaning	Forms of the MV	Forms of the infinitive	Kinds of sentences	Some other ways of expressing the same meaning	Sentence patterns
1. Obligation, necessity with no freedom of choice or from the speaker’s point of view	must – in present or future time contexts; in past time contexts in Indirect Speech	Indefinite Infinitive	affirmative interrogative	to be obliged to, it’s necessary for smb to do smth	If you have a new heart attack you must be taken to hospital. What must he do to keep feet? He said he must go to the dentist.
2. Prohibition	mustn’t	Indefinite Infinitive	negative	to be forbidden	Students mustn’t stay away from classes without a good reason.
3. Emphatic request or advice	must mustn’t	Indefinite Infinitive	affirmative negative		You mustn’t miss this film. It’s worth seeing this film. You must drop in at the chemist’s on your way home.
4. Supposition implying assurance, strong	must	Indefinite Infinitive Continuous	only in the affirmative form in affirmative	probably, evidently, surely, no doubt,	He must be too old to wander about the city so long. They must be admiring

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probability		Infinitive	and negative sentences	undoubtedly, it's clear that, in all probability	the beautiful flowers in Hyde Park now. They must have been watching swans and ducks floating on the pond for an hour. She must have got used to their customs and traditions.
		Perfect Infinitive			
		Perfect Continuous Infinitive			

N o t e s

<ol style="list-style-type: none"> Absence of necessity is expressed by "needn't". e.g.: Must I mention all those facts in my report? - Yes, you must. They are important. - No, you needn't. They are of no use. "Must" is not used in the negative form to express supposition implying assurance. This meaning is expressed by: a) Evidently (probably) they didn't come to any agreement; b) They must have failed to come to any agreement; c) They must have misunderstood us; d) He must never have guessed the truth; e) No one must have told them the truth. "Must" is not used with reference to the future. In this case its equivalents are used. e.g.: She is likely (unlikely) to come.

TO HAVE (GOT) TO

Meaning	Forms of the MV	Forms of the infinitive	Kinds of sentences	Some other ways of expressing the same meaning	Sentence patterns
1. Obligation, necessity arising from circumstances	have (has) to; had to; shall/will have to; have (has) got to (in colloquial English), Do (does)... have to? Did ... have	Indefinite Infinitive	affirmative interrogative	to be obliged to	If you don't take care of yourself, you'll have to consult a doctor. I wondered how long I had to stay in hospital. Do Russian people have to pay for medical care? Did you have to wait for us? Have I got to wake him up for the medicine?

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	to? Have (has) ... got to...? (coll.)				
2. Absence of necessity	don't (doesn't) have to; didn't have to; haven't (hasn't) got to	Indefinite Infinitive	negative	needn't to	You don't have to stay in here with me, if it bothers you. You haven't got to be operated on , have you?

N o t e s

“**didn't have to do**” indicates that the action was not performed as there was no obligation
e.g.: He **didn't have to water** the flowers (**and he didn't**). It was raining all day long.

TO BE TO

Meaning	Forms of the MV	Forms of the infinitive	Kinds of sentences	Some other ways of expressing the same meaning	Sentence patterns
1. Obligation arising out of a plan, an arrangement	am (is, are) to was (were) to	Indefinite Infinitive Perfect Infinitive (an unfulfilled plan)	affirmative interrogative	to plan; to make a plan; to arrange; to agree; to decide	Today I am to go to the post-office. When are you to go there? Yesterday I was to have gone to the post-office to send a parcel, but I wasn't able to. (a planned action was not carried out)
2. An order, an instruction	-||-||-	Indefinite Infinitive	affirmative negative		If your letter contains anything valuable you are to register it.
3. Possibility	- - -	Indefinite Infinitive Passive	affirmative interrogative negative		A letter marked 'Post Restante' is to be left at the post-office until it is called for. Where are postal orders to

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					be cashed? Such envelopes aren't to be bought anywhere.
4. Something thought as unavoidable	- - -	Indefinite Infinitive	affirmative negative		I didn't know when I was to get a letter from her. I still hoped to get a letter from her, but it wasn't to be.

Remember the following set phrases:

1. Where am I to go? – Куди я маю йти?
2. It's to be hoped. – Потрібно сподіватися.
3. What am I to do? – Що я маю робити?
4. What is to become of me? – Що має зі мною бути?
5. When am I to be there? – О котрій я маю прийти?
6. Who is to begin? – Хто має починати?
7. Who's to blame? – Хто винен?
8. What's to be done? – Що потрібно робити?
9. He's nowhere to be found. – Його не можна ніде знайти.
10. He is to be pitied. – Його потрібно пожаліти.
11. You are to be congratulated. – Ми маємо вас привітати.

SHOULD/UGHT TO

Meaning	Forms of the MV	Forms of the infinitive	Kinds of sentences	Some other ways of expressing the same meaning	Sentence patterns
1. Obligation weakened to the sense of advice, desirability	should shouldn't Should I...? ought to oughtn't to Ought I to...?	Indefinite Infinitive Continuous Infinitive The Perfect Infinitive indicates that a desirable action was not carried out (an	affirmative interrogative negative	I advise you to... I advise you not to... I recommend you to do... I urge you to do... It is for you to do... I would advise you to do...	You ought to/should help your friend. He is in trouble. You should/ought to be getting ready for your report. You ought to/should have changed for the Underground. Gorky Street is far away from here. He oughtn't to/shouldn't have left

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		undesirable action was not carried out).			London without visiting Hyde Park.
2. Instructions, corrections	should shouldn't Should I...?	Indefinite Infinitive	affirmative interrogative negative		This preposition should be pronounced with a neutral sound in an unstressed position. You should take this medicine three times a day before your meals.
3. Disapproval, reproach for failing to do what was one's duty or moral obligation	should shouldn't ought to oughtn't to	The Continuous Infinitive refers the action to the present. The Perfect Infinitive indicates that the action was not carried out.	affirmative negative		You ought to/should be speaking more clearly. You oughtn't to/should have allowed him to go out so early after his illness.
4. Supposition implying probability	should shouldn't ought to oughtn't to	The Indefinite Infinitive refers the action to the present or future. The Perfect Infinitive refers the action to the past.	affirmative negative	Very likely he... It's likely he... Most likely he... Very probably he... I think it is probable that...I expect he... Probably not...	This dish ought to/should be very delicious as it has been prepared by Mother. This dish is very delicious. It ought to/should have been prepared by Mother.
5. Emotional colouring	Should I...?	Indefinite Infinitive	interrogative		Why should I? Why should you help him? How should you know ?

WILL/WOULD

Meaning	Forms of the MV	Forms of the infinitive	Kinds of sentences	Some other ways of expressing the same meaning	Sentence patterns
1. Volition (willingness, readiness, consent, intention, determination)	I / We will (would) I / We won't (wouldn't)	Indefinite Infinitive	affirmative negative	I intend... I'm willing... We wish... We want... I'm determined...	I will tell him about your coming, so he can meet you. I've often spoken at public meetings but this time I won't You may come if you will , but you won't find the meeting amusing. I said I would take part in the conference.
2. a) Persistence or refusal to perform an action. b) Refusal to perform an action with lifeless things	will (would) won't (wouldn't) won't wouldn't will (would)		affirmative negative	He insists.... She keeps on... She refuses... They continue...	The teacher scolds her for whispering at the lesson, but she will whisper . I asked him to tell me the truth, but he wouldn't . I couldn't explain anything because the words wouldn't come . He tried hard to stop the car, but it would move .
3. Requests (polite requests, polite invitations and suggestions)	will would		interrogative	Could you... May I ask you to give...?	Will you pass me the salt? Would you come to tea this afternoon? Will you have another cup of tea?
4. Habitual or recurrent actions	will (the present tense) (not common) would (the past tense) (literary style)		affirmative	used to	That romantic girl will sit staring at the night sky. He would fish for hours without catching anything.

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N o t e s

- I. Remember the following set phrases:
- would rather, would sooner.** e.g.: I **would rather do** it myself. He **would sooner die** than do it.
 - Would** you **mind** my staying here? I **wouldn't mind** your joining us.
- II. "Will" may express supposition with reference to the present or future in combination with the indefinite infinitive, or to the past in combination with the perfect infinitive. This meaning is found with the 2nd and 3rd persons.
- e.g.: This will be the school, I believe. You will have heard the news, I'm sure.
- III. Notice the use of "will" in the following sentences:
- e.g.: Boys will be boys. Accidents will happen. You will find no greater wisdom than kindness.

SHALL

Meaning	Forms of the MV	Forms of the infinitive	Kinds of sentences	Some other ways of expressing the same meaning	Sentence patterns
1. Asking for instruction	Shall I? Shall he (she, they)?	Indefinite Infinitive	interrogative	Must I do it? Do you want me to do it? Am I to do it?	Shall I read the article again? Shall he (she, they) start speaking on the topic?
2. Compulsion or strict order	You he she it they shall shan't		affirmative negative	I shall make him do it. I shall get you to do it.	You shall stop reading fiction books at your lectures. He shan't prevent us from working at the problem.
3. Threat or warning	You he she it they shall shan't		affirmative negative		Tell him he shall be punished for his behaviour. You shall fail the exam if you don't work hard.
4. Promise	You he she it they shall shan't		affirmative negative	You are sure to get... I promise that they won't punish you.	Don't worry, you shall have a minute's rest before the meeting begins.

DARE

Meaning	Forms of the MV	Forms of the infinitive	Kinds of sentences	Some other ways of expressing the same meaning	Sentence patterns
1. Impertinence, to have the courage to do smth	dare do smth dared do smth	Indefinite Infinitive	affirmative interrogative		You dare address me in that tone! Did he dare to strike me when I was down?
2. Not to have courage to do smth	dared not do smth		negative		He didn't dare to meet his uncle

N o t e s

1. "I dare say" has become a stock phrase and acquired a new meaning "I suppose".
2. It is used both:
 - a) as an normal verb => taking the auxiliary "do" in the interrogative and negative forms, -s in the 3rd person singular and the to+ Infinitive
 - b) as an anomalous verb => without the auxiliary in its interrogative and negative forms, without -s in the 3rd person singular and with the bare Infinitive (without "to")

GRAMMAR EXERCISES

Exercise 1. Fill the following spaces, using "can" for present, "could" for past and "will be able" for future. There is no need to use other able form in this section. Put TO where necessary before the infinitives.

1. ... you stand on your head? ~ I ... when I was at school but I ... now.
2. When I've passed my driving test I ... hire a car from our local garage.
3. At the end of the month the Post Office will send him an enormous telephone bill which he ... pay.
(negative)
4. I ... remember the address, (negative) ~ ... you even remember the street? (negative)
5. When the fog lifts we ... see where we are.
6. You've put too much in your rucksack; you never ... carry all that.
7. When I was a child I ... understand adults, and now that I am an adult I ... understand children.
(negative, negative)
8. When you have taken your degree you ... put letters after your name.
9. Don't try to look at all the pictures in the gallery. Otherwise when you get home you ... remember any of them. (negative)
10. When I first went to Spain I ... read Spanish but I ... speak it.

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11. ... you type?~ Yes, I ... type but I ... do shorthand.

12. I'm locked in. I ... get out! (*negative*) ~ ... you squeeze between the bars? (*negative*) ~ No! I ...; I'm too fat. (*negative*)

Exercise 2. Fill in the blanks with the correct tense and form of “be able to” with the verb in brackets.

1. Yesterday I (not walk) wasn't able to walk to school because I was sick.
2. If you work hard now, you (play) _____ all next weekend.
3. I'm afraid I (not go) _____ with you to the doctor this evening.
4. They (understand) _____ their neighbours now they speak Arabic.
5. Bob (buy) _____ that boat last week because he borrowed some money.
6. We (drive) _____ to the sea tomorrow in our new car.
7. My boss (not pay) _____ me now because he hasn't got any money.
8. I'm sorry, I (not find) _____ the book you wanted. It wasn't in the shops.
9. I think I (speak) _____ English quite well in a few months.
10. George has traveled a lot. He (speak) _____ four languages.

Exercise 3. (Polite request) You are staying in a hotel. What do you say in these situations. Use Can / Could you ...? or Can / Could I...?

1. You want the receptionist to turn the air-conditioning off in your room because you're cold.
Could you (or Can you) turn the air-conditioning off, please?
2. There is only one towel in your room. You want another one.
_____?
3. You want the receptionist to give you a wake-up call at 6.30 in the morning.
_____?
4. You want breakfast in your room tomorrow morning.
_____?
5. You want to leave your passport and traveller's cheques in the hotel safe.
_____?
6. There is no hair drier in your room. You want to borrow one.
_____?
7. You want the receptionist to get a taxi for you.
_____?

MAY / MIGHT/ BE ALLOWED TO

Exercise 4. Fill in the blanks with “may (might) or to be allowed to”. Use “to be allowed to” only in sentences where “may (might)” is not to be used.

1. _____ I bring my sister to the party?

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2. He asked if he _____ bring his sister to the party.
3. After they had finished their homework, the children _____ watch TV.
4. He _____ the sport section as soon as he is through with his medical exams.
5. Becky's mother said that everybody _____ take part in the picnic.
6. He _____ go home if he likes.
7. As soon as the boy _____ leave the room, he smiled a happy smile and ran out to join his friends outside.
8. The doctor says I am much better. I _____ get up for a few hours every day.
9. I have a sore throat. I wonder when I _____ eat ice-cream.
10. If you don't put on your coat, you _____ get ill.

Exercise 5. Fill in the blanks with "can/ could or may/ might" (or the negative forms).

1. _____ we leave the room? Is the lesson over?
2. _____ you stand on your head? - I _____ when I was at school but I _____ now.
3. _____ I smoke here? - No, you _____, smoking is not allowed.
4. _____ you type? - Yes, I _____ type, but I _____ do shorthand.
5. _____ I come in? - Please, do.
6. Where _____ I buy fruit?
7. He _____ answer the teacher's questions yesterday, but he _____ answer the same questions today.
8. _____ I come and see you this evening? - Of course, you _____.
9. It's very cold. _____ I shut the windows?
10. When I first went to Spain I _____ read Spanish but I _____ speak it.

MUST / HAVE TO / NEED

Exercise 6. Complete the following sentences using "must".

1. If you want to know English well, you _____.
2. If your spelling is poor, you _____.
3. If she wants to cross the street and there is a red light, she _____.
4. If you are unwell, you _____.
5. If she wants to get to the university, she _____.
6. If he makes a lot of grammar mistakes, he _____.
7. If you want to be healthy, you _____.

Exercise 7. Fill in "have to", "has to", "don't / doesn't have to", "didn't have to", "had to" or "won't have to".

1. It's Sunday tomorrow so I **won't have to** _____ get up early.
2. There's no school tomorrow, so the children _____ go to bed early.

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3. We went to a restaurant yesterday, so we _____ cook.
4. Let's clean up now, so we _____ do it tomorrow.
5. It rained yesterday, so she _____ water the flowers.
6. Lucy feels better now, so she _____ take the medicine.
7. You've got plenty of time. You _____ hurry.
8. He _____ shout or else she can't hear him.
9. It was very cold yesterday, so I _____ wear a coat.
10. She _____ wear glasses or else she can't read.

Exercise 8. Insert "must / have to / had to" into the following sentences.

1. She _____ leave home at eight every morning at present.
2. I never remember his address; I always _____ look it up.
3. If you go to a dentist with a private practice you _____ pay him quite a lot of money.
4. The buses were full; I _____ get a taxi.
5. When I changed my job I _____ move to another flat.
6. She sees very badly; she _____ wear glasses all the time.
7. If you buy that TV-set you _____ buy a license for it.
8. Attention! Cameras, sticks and umbrellas _____ be left at the desk.
9. I got lost and I _____ ask a policeman the way.
10. Whenever the dog wants to go out I _____ get up and open the door.

MUSTN'T - NEEDN'T - DON'T HAVE TO

Exercise 9. Complete the gaps in these sentences with a word or phrase from the box.

must	mustn't (x2)	have to	don't have to (x2)	had to	didn't have to
------	--------------	---------	--------------------	--------	----------------

1. You _____ smoke in the library.
2. It's free to get in: you _____ pay.
3. I missed my train and I _____ wait half an hour for the next one.
4. It's not a direct flight to New Zealand: you _____ change planes at Bangkok.
5. There were only two people in front of me in the queue so I _____ wait long.
6. Don't cry, Jessica – you _____ play with John if you don't want to.
7. Children _____ walk on the railway line.
8. I _____ remember to post this letter.

SHOULD / OUGHT TO

Exercise 10. What advice would you give in the following situations? Use "should".

1. Alan had a terrible quarrel with his wife at the weekend. It was his fault.

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What do you think he should do? I think he should apologize to his wife.

2. Lane watches videos every night. She never goes out with her friends.

What advice do you give? I think _____

3. David and Paula haven't got much money. But they go out every night and spend money. At the end of the month they can't pay their gas and electricity bills. What advice would you give?

I don't think _____

4. Joseph is very intelligent, but he wants to leave school and get a job. His parents think he should go to university. What do you think?

I think _____

5. Maria told me some interesting news last night, but she said, "Please, don't tell anyone." Now Claire has asked me about Maria's news. What do you think I should do?

I don't think _____

Exercise 11. You are asking a friend for advice. Make questions with "Do you think I / we should...?"

1. There two buttons missing on this shirt I've just bought.

Do you think I should take it back to the shop?

2. I think I work very hard but I don't get a big salary.

_____ my boss for more money?

3. Simon's late again, and the train leaves in five minutes.

_____ a bit longer or go without him?

4. Martina has been sleeping for 18 hours and it's lunchtime soon.

_____ her up?

5. Jane is very nervous about going on holiday alone.

_____ with her?

6. We must be at the airport at 6.00 a.m. and the buses are not very good in the mornings.

_____ a taxi?

REVISION EXERCISES

Exercise 12. Complete the sentences with a word from the box.

can	can't	should	should	should	shouldn't	mustn't	must	mustn't	mustn't
-----	-------	--------	--------	--------	-----------	---------	------	---------	---------

1. You _____ smoke in the library.

2. I think you _____ take the train; it's faster than the bus.

3. I'm sorry, you _____ buy drinks after 11 o'clock.

4. Jan: We're getting married.

Sam: Congratulations.

Jan: But you _____ tell anyone, it's a secret.

5. If you're worried about your eyes perhaps you _____ see a doctor.

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6. I don't think we _____ leave him; it's not fair.
7. You know, you really _____ smoke so much it isn't good for you.
8. Now, you _____ be good while we're away, do everything Grandma says.
9. These are my most precious possessions so you _____ touch them, but you _____ look at them.

Exercise 13. Put “can, may, must, should, have to, be able to” (or the negative forms) and “needn't” in the spaces.

1. “Oh, Nurse, _____ I stay here?” “Stay here? Of course, you _____.”
2. There are no buses or taxis, so we _____ walk.
3. No, Paula you _____ have another potato. You've had two already.
4. We _____ live without food and water. We _____ eat and drink.
5. I _____ get up early tomorrow, so I _____ go to bed late tonight.
6. You _____ walk all the way to the station. You _____ take a bus round the corner.
7. You _____ switch off the light if you're afraid of the dark.
8. You _____ sit there in your wet clothes; you will catch cold if you do.
9. They _____ do all the exercises; it will be enough if they do four or five.

UNIT 10
INTERNET AND LAN TECHNOLOGY

Task 1. Memorize the following words and word-combinations:

- | | |
|--|--|
| 1. application layer | 29. make up |
| 2. aside | 30. match |
| 3. command-line interface | 31. military |
| 4. communications infrastructure | 32. multi-lateral |
| 5. confusing | 33. Open Systems Interconnection (OSI) |
| 6. constitute | 34. owe |
| 7. convenient | 35. packet switching |
| 8. delegate | 36. participate |
| 9. description | 37. path |
| 10. dial-up connection | 38. peering agreement |
| 11. efficient | 39. recipient |
| 12. embrace | 40. remote machine |
| 13. establish | 41. Request for Comment (RFC) |
| 14. facilitate | 42. retrieve |
| 15. fairly | 43. rigorous |
| 16. fiber-optic line | 44. scope |
| 17. free of charge | 45. snail mail |
| 18. FTP | 46. socialize |
| 19. global | 47. standard-setting work group |
| 20. go on tour | 48. stay in touch |
| 21. Gopher | 49. subscribe |
| 22. implementation | 50. TCP/IP model |
| 23. intermediate | 51. techno-jargon |
| 24. Internet Engineering Task Force (IETF) | 52. Telnet |
| 25. Internet Protocol Suite | 53. transfer |
| 26. knock out | 54. transport layer |
| 27. lastly | 55. USENET |
| 28. layered system | 56. vast |

TEXT 10A. THE INTERNET

The Internet, a global computer network that embraces millions of users all over the world, began in the United States in 1969 as a military experiment. It was designed to survive a nuclear war. Information sent over the Internet takes the shortest path available from one computer to another. Because of this any two computers on the Internet will be able to stay in touch with each other as long as there is a single route between them. This technology is called packet switching. Owing to this technology, if some computers on the network are knocked out, information will just route around them. One such packet switching network that has already survived a war is the Iraqi computer network that was knocked out during the Gulf War.

Despite the confusing techno-jargon that surrounds it, the Internet is simple: computers talk to one another through a network that uses phone lines, cable, and fiber-optic lines.

At present more than 60 million people use the Internet and over five million computers worldwide are linked in. Most of the Internet host computers are in the United States, while the rest are located in more than 100 other countries. Although the number of host computers can be counted fairly accurately, nobody knows exactly how many people use the Internet, there are millions worldwide, and their number is growing by thousands each month. People use the Net for transferring data, playing games, socializing with other computer users, and sending e-mail.

The most popular Internet services are e-mail, reading USENET news, using the World Wide Web, telnet, FTP, information sites and Gopher.

The Internet can be divided into five broad areas:

Electronic mail

E-mail is much faster than traditional or snail mail because once the message is typed out, it arrives in the electronic mailbox of the recipient within minutes or seconds. Anything that can be digitized – pictures, sound, video –can be sent, retrieved and printed at the other end. This is efficient and convenient.

Information sites

This is perhaps the fastest growing area of the Internet as more and more people put their own information pages on line. One thing that computers do very well is processing vast amounts of data very fast, so, by specifying a key word or phrase, the computer can then search around the Net until it finds some matches. These information sites are usually stored on big computers that exist all over the world. The beauty of the Net is that you can access all of them from your home, using your own PC.

The World Wide Web

The World Wide Web usually referred to as WWW or 3W, is a vast network of information databases that feature text, visuals, sound, and video clips. On the WWW you can do such things as go on tour of a museum or art exhibition, see the latest images from outer space, go shopping, and get travel information on hotels and holidays.

USENET News

Usenet is a collection of newsgroups covering any topic. Newsgroups allow users to participate in dialogues and conversations by subscribing, free of charge. Each newsgroup consists of messages and

information posted by other users. There are more than 10,000 newsgroups and they are popular with universities and businesses.

Telnet

Telnet programs allow you to use your personal computer to access a powerful mainframe computer. It is a network protocol used on the Internet or local area network connections (LANs). Telnet provides access to a command-line interface on a remote machine. Telnet clients are available for virtually all platforms.

Aside from the complex physical connections that make up its infrastructure, the Internet is facilitated by bi- or multi-lateral commercial contracts (peering agreements), and by technical specifications or protocols that describe how to exchange data over the network. Indeed, the Internet is defined by its interconnections and routing policies.

The complex communications infrastructure of the Internet consists of its hardware components and a system of software layers that control various aspects of the architecture. While the hardware can often be used to support other software systems, it is the design and the rigorous standardization process of the software architecture that characterizes the Internet.

The responsibility for the architectural design of the Internet software systems has been delegated to the Internet Engineering Task Force (IETF). The IETF conducts standard-setting work groups; open to any individual, about the various aspects of Internet architecture. Resulting discussions and final standards are published in Request for Comment (RFC), freely available on the IETF web site. The principal methods of networking that enable the Internet are contained in a series of RFC that constitute the Internet Standards. These standards describe a system known as the Internet Protocol Suite. This is a model architecture that divides methods into a layered system of protocols (e.g., RFC 1122, RFC 1123). The layers correspond to the environment or scope in which their services operate. At the top is the space (Application Layer) of the software application and just below it is the Transport Layer which connects applications on different host via the network (client-server model). The underlying network consists of two layers: the Internet Layer which enables computers to connect to one-another via intermediate (transit) networks and thus is the layer that establishes internetworking, and lastly, at the bottom, is a software layer that provides connectivity between hosts on the same local link, e.g., a local area network (LAN) or a dial-up connection. This model is also known as TCP/IP model of networking. While other models have been developed, such as the Open Systems Interconnection (OSI) model, they are not compatible in the details of description, nor implementation.

Task 2. Speaking. Discuss the following questions.

- 1) What is the Internet?
- 2) When did the Internet begin?
- 3) What was the Internet designed for?
- 4) What technology is called packet switching?
- 5) In what way can computers be connected in the network?
- 6) What is the number of people using the Internet?
- 7) What do people use the Internet for?
- 8) What are the most popular Internet services?
- 9) What is e-mail and its advantages?
- 10) Tell about information sites.
- 11) Characterize the WWW.
- 12) What are Usenet groups? Are you a member of any of them?
- 13) What do telnet programs allow you to do?
- 14) What is the Internet facilitated by?
- 15) What does the complex communications infrastructure of the Internet consist of?
- 16) What is the function of the Internet Engineering Task Force?
- 17) What do Internet Standards describe?

Task 3. Write derivatives of the given words and translate them.

Globe, unite, surround, divide, digit, inform, process, beauty, exhibit, inform, connect, agree, response, apply, connect, describe, implement.

Task 4. Translate the following attributive groups of words:

A single route, packet switching network, confusing techno-jargon, fibre-optic lines, the fastest growing area, vast amounts of information, hotel's facilities, a collection of newsgroups, a powerful mainframe computer, local area network connections, command-line interface, multi-lateral commercial contracts, the complex communications infrastructure, the rigorous standardization process, the Internet Engineering Task Force, standard-setting work groups, Open Systems Interconnection.

Task 5. Give Ukrainian equivalents of the following English word-groups:

To embrace millions of users; to allow to use; to cover the topic; to be facilitated by technical specifications; peering agreements; to exchange data over the network; routing policy; software layers; various aspects of the architecture; resulting discussions; final standard; rigorous standardization process; layered system of protocols; the environment or scope; via the network; internetworking; compatible in the details; description; implementation.

UNIT 10. INTERNET AND LAN TECHNOLOGY. THE VERBALS.

Task 6. Give English equivalents of the following Ukrainian word-groups:

Друковане послання; все, що можна відцифрувати; зручно та ефективно; створювати інформаційні сторінки; опрацьовувати величезні масиви інформації; ключове слово чи вираз; шукати у мережі; зберігатися на великих комп'ютерах; мати доступ з власного комп'ютера; приймати участь у обговоренні; безкоштовно; майже точно; спілкуватись з користувачами з усього світу; швидко зростаюча сфера Інтернету; охоплювати будь-яку тему.

Task 7. Put questions to the words underlined in the following sentences:

- 1) It was designed to survive a nuclear war.
- 2) The Internet began in the United States in 1969 as a military experiment.
- 3) This technology is called packet switching.
- 4) Computers talk to one another through a network that uses phone lines, cable, and fiber-optic lines.
- 5) The Internet can be divided into five broad areas.
- 6) Usenet is a collection of newsgroups covering any topic.
- 7) There are more than 10,000 newsgroups and they are popular with universities and businesses.
- 8) Telnet clients are available for virtually all platforms.
- 9) The layers correspond to the environment or scope in which their services operate.
- 10) This model is also known as TCP/IP model of networking.

Task 8. Give the definition of the given abbreviations. Describe their function.

USA, WWW, USENET, FTP, PC, LAN, IETF, RFC, AL, TL, IL, TCP/IP, OSI.

Task 9. Fill in the spaces in the sentences with the proper form of the article (if necessary). Translate the sentences.

- 1) One of ... most exciting new developments in ... modems is ... ability of ... modem to transmit ... down ... telephone line ... the same time as it is sending ... data.
- 2) ... system of ... commercial banks was created in ... Ukraine.
- 3) There were ... 154 commercial banks in ... middle of 1999.
- 4) At ... millions of ... offices ... fax machines are boosting ... productivity and cutting ... telecom costs.
- 5) ... exhibitors have taken ... advantage of ... enormous assembly of ... international journalists at ... exhibition.
- 6) ... exhibition has always been ... place for introducing ... new products and ... new technologies.
- 7) The Internet provides us with ... reliable alternative to ... expensive and erratic telecommunications system of ... Ukraine.
- 8) All of ... large, multinational corporations have built ... very attractive stands at ... exhibition.
- 9) To meet ... goal of ... plan, they have sought to clarify ... future direction.
- 10) ... software and services represent one of ... fastest growing sectors of ... computer market in ... Eastern Europe.

Task 10. Fill in the spaces in the sentences with the prepositions given in brackets. Translate the text.
(as, of (3), by(2), to, from)

The Internet is a global system ...interconnected computer networks that interchange data ...packet switching using the standardized Internet Protocol Suite (TCP/IP). It is a "network ...networks" that consists ...millions of private and public, academic, business, and government networks ...local ...global scope that are linked ...copper wires, fiber-optic cables, wireless <http://en.wikipedia.org/wiki/Wireless> connections, and other technologies. The Internet carries various information resources and services, such ... electronic mail, online chat, file transfer and file sharing, online gaming, and the inter-linked hypertext documents and other resources of the WWW.

Task 11. Read and translate the text “The Language of E-mail”.

TEXT 10 B. THE LANGUAGE OF E-MAIL

E-mail is the simplest and most immediate function of the Internet for many people. Run through a list of questions that new e-mail users ask most and some snappy answers to them.

What is electronic mail? Electronic mail, or e-mail as it's normally shortened to, is just a message that is composed, sent and read electronically (hence the name). With regular mail you write out your message (letter, postcard, whatever) and drop it off at the post office. The postal service then delivers the message and the recipient reads it. E-mail operates basically the same-way except that everything happens electronically. You compose your message using e-mail software, send it over the lines that connect the Internet's networks and the recipient uses an e-mail program to read the message.

How does e-mail know to get where it's going? Everybody who's connected to the Internet is assigned a unique e-mail address. In a way, this address is a lot like the address of your house or apartment because it tells everyone else your exact location on the Net. So anyone who wants to send you an e-mail message just tells the e-mail program the appropriate address and runs the Send command. The Internet takes over from there and makes sure the missive arrives safely.

What's this netiquette stuff I keep hearing about? The Net is a huge, unwieldy mass with no “powers-that-be” that can dictate content or standards. This is, for the most part, a good thing because it means there's no censorship and no one can wield authority arbitrarily. To prevent this organized chaos from descending into mere anarchy, however, a set of guidelines has been put together over the years. These guidelines are known collectively as netiquette (network etiquette) and they offer suggestions on the correct way to interact with the Internet's denizens. To give you a taste of netiquette, here are some highlights to consider.

- Keep your message brief and to the point and make sure you clear up any spelling slips or grammatical gaffes before shipping it out.

- Make sure the Subject lines of your message are detailed enough so they explain what your message is all about.

- Don't SHOUT by writing your missives entirely in uppercase letters.

- Don't bother other people by sending them test messages. If you must test a program, send a message to yourself.

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What's a flame? The vast majority of e-mail correspondence is civil and courteous, but with millions of participants all over the world, it's inevitable that some folks will rub other the wrong way. When this happens, the combatants may exchange emotionally charged, caustic, often obscene messages called flames. When enough of these messages exchanges hands, an out-and-out flame war develops. These usually burn themselves out after a while, and then the participants can get back to more interesting things.

Is e-mail secure? In a word, no. The Net's open architecture allows programmers to write interesting and useful new Internet services, but it also allows unscrupulous snoops to lurk where they don't belong. In particular, the e-mail system has two problems: it's not that hard for someone else to read your e-mail, and it's fairly easy to forge an e-mail address. If security is a must for you, then you'll want to create an industrial strength password for your home directory, use encryption for your most sensitive messages, and use an anonymous remailer when you want to send something incognito.

Task 12. Answer the questions.

1. What is e-mail for you? How often do you use it?
2. Do you imagine you life without the e-mail?
3. What major problems are there with the e-mail?
4. Are they opinions or facts?
5. Would it be a problem for you?
6. What do you think is the reason for the various bits of netiquette which are mentioned?
7. What is a flame? Have you ever been the target of the flame?
8. Is e-mail secure? How to make it so?

Task 13. For which of the following types of writing is it necessary to be brief?

Instructions, love letters, news reports, business proposals, faxes, adverts, insurance claims, curriculum vitae, short stories, scientific reports, e-mail, poems.

Task 14. Complete these common phrases:

AAMOF	as a m... of f...
AFAIK	as f... as I k...
FYI	for your i...
FYA	f... y... am...
IMO	in my o...
IOW	in o... words
NRN	not r... necessary
TTYL	talk to y... l...
FAQ	f... a... question(s)
BTW	by t... w...

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LOL	la... o... loud
KHYF	k... ho... y... fe...
IMHO	in my h... o...
WYSIWYG	what y... see is w... y... g...
RTFM	read the f... m...

Task 15. Study the following information and dictate the e-mail address to your partner.

E-mail messages usually have the following format:

To: (Name and e-mail address of recipient)

From: (Name and e-mail address of sender)

Subject: (Identification of main point of message)

Here is an example of an e-mail address:

smith@cup.ac.uk

Note that the symbol @ in e-mail address is read at that the full stops are read as dot. Thus the example address would be read as Smith at C – U – P dot A – C dot U – K.

The ac.uk in the example address tells you that the address is based at a university in the United Kingdom.

Do you know anyone with an e-mail address? If so, dictate it to other students in the class. If not, then your teacher will give you some addresses for dictation.

Task 16. E-mailers make use of symbols called smileys (or emoticons) which can be written using standard letters and signs.

:-) Your basic smiley. This is used to mean I'm happy.

;-) Winking smiley. I'm flirting or being ironic.

;-(Frowning smiley. I did not like something.

:| I'm indifferent.

8-) I wear glasses.

:-{) I have a moustache.

:-~) I have a cold.

C=:^) Head cook, chef-de-cuisine.

Q:^) Soldier, man with beret, boy scout.

*:O) Clown face; I'm feeling like a buffoon.

:^9 Licking the lips; very tasty or delicious.

^^^ O: >~ Snake (or to rake someone over the coals)

Match these smileys to their meanings listed below:

%-) (-: | :-Q :-@ :-D <:-| (:) [:-)

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1. I'm a dunce.
2. I'm an egghead.
3. I'm asleep.
4. I'm laughing.
5. I'm left-handed.
6. I'm screaming.
7. I'm wearing a Walkman.
8. I'm sticking my tongue out at you.
9. I've been staring at this screen for too long.

Task 17. Discuss the following questions:

1. Do faxes, electronic mail and papers offer an escape from human interaction?
2. Could all these topography symbols such as e-smiles supplant the more emotive ingredients of two-way communication?
3. How can we balance the use of technology and real-life conversation?

GRAMMAR REVIEW

THE VERBALS

The forms of the Verbals or the non-finite forms of the verb

Non-finite forms	The Infinitive		The Gerund		The first Participle \ Participle I	
<i>Voice</i> <i>Aspect</i>	Active	Passive	Active	Passive	Active	Passive
<i>An indefinite form</i>	to do to play	to be done to be played	doing playing	being done being played	doing playing	being done being played
<i>A perfect form</i>	to have done to have played	to have been done have been played	having done having played	having been done having been played	having done having played	having been done having been played
<i>A continuous form</i>	to be doing to be playing					
<i>A perfect continuous form</i>	to have been doing have been playing					

Note: The Second Participle or Participle II has got the single form done \ played, and denotes the passive meaning either of a simultaneous action\state (1) or a prior action to that of the predicate verb (2).

UNIT 10. INTERNET AND LAN TECHNOLOGY. THE VERBALS.

1. She found the door locked. Looking rather alarmed, she rushed out of the room. I made my way to the parked car. The streets, deserted, looked frightening. I was cold and too excited to talk about it. You are constantly seen drunk. She stood with her arms folded. He stood staring at that creature with the dyed hair, painted face.
2. Suddenly touched, she came over to the farther. Alfred, left alone, stood motionless for some minutes. When asked, he answered that it would take them about a week.

THE INFINITIVE

The infinitives are the **to-infinitive** (He promised **to help** me) and the **bare infinitive** (I must **leave** now).

We use the to-infinitive:

- to express **purpose**. *I woke up early **to catch** the morning train.*
- after adjectives such as **advice, agree, appear, decide, expect, hope, offer, promise, refuse, seem, want**, etc. *They **decided to sell** their old car.*
- after certain verbs such as **nice, sorry, glad, happy, afraid, easy, difficult**, etc. *It's **easy to learn** how to drive a car.*
- after **would prefer**. *I **would prefer to live** in the country.*
- after **too** and **enough**. *He's **too young to cross** the street. I've saved **enough money to buy** a car.*

INFINITIVE WITHOUT TO

After auxiliary verbs	<i>I do not like it. We will do it tomorrow.</i>
After MODAL VERBS but ought	<i>He can swim. We must be off.</i>
After verbs of feeling and emotion see, hear, feel	<i>I saw and heard him come. I felt my pulse quicken.</i>
After let – дозволяти, make – змушувати	<i>Let us visit him. She made me come back.</i>
After had better would rather cannot but nothing but	<i>We had better go to France. I would rather visit England.</i>

Exercise 1. Insert "to" where necessary before the infinitive in brackets.

1. I can't _____ (see) anything. It's so dark.
2. Let's _____ (go) to Rome for our holiday.
3. We'd love _____ (meet) your wife.
4. Could you _____ (tell) me the time, please?
5. Keep working. Don't let me _____ (interrupt) you.
6. John forgot _____ (turn off) the lights when he went to bed.

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7. I felt the house _____ (shake) with the explosion.
8. He made us _____ (wait) for hours.
9. May I _____ (use) your phone?
10. The teacher usually lets us _____ (use) our dictionary to do the translations.

Exercise 2. Use the infinitive in brackets in the required form of the active or passive voice.

1. I hate _____ (to bother) you, but the man is still waiting _____ (to give) the answer.
2. The girl pretended _____ (to read) a book and not _____ (to look) at me.
3. He seized every opportunity _____ (to appear) in public: he was so anxious _____ (to talk) about.
4. Don't worry about him, he is sure _____ (to have) a good time at the moment.
5. He began writing books not because he wanted _____ (to earn) a living. He wanted _____ (to read) and not _____ (to forget).
6. They are supposed _____ (to work) at the problem for the last two months.
7. Wrap up my lunch, child. I must go. He doesn't like _____ (to keep) waiting.
8. It is so thoughtful of you _____ (to book) the tickets well in advance.
9. The idea was too complicated _____ (to express) in just one paragraph.
10. It seemed _____ (to snow) heavily since early morning: the ground was covered with a deep layer of snow.
11. Her ring was believed _____ (to lose) until she happened to find it during the general cleaning. It turned out _____ (to drop) between the sofa and the wall.
12. Listen! They seem _____ (quarrel). I can hear angry voices from behind the door.

Exercise 3. Use the infinitives in the box as subjects.

<i>to give up,</i>	<i>to stop,</i>	<i>to say,</i>	<i>to forget,</i>	<i>to lose,</i>	<i>to know,</i>	<i>to repair,</i>	<i>to search,</i>	<i>to</i>
<i>mention,</i>	<i>to look up,</i>	<i>to take</i>						

1. It's difficult for him _____ smoking.
2. It was impossible _____ the bicycle.
3. _____ the map well means to be able to show any country or town on it.
4. It took us twelve days _____ the island.
5. _____ the past was impossible.
6. It was his habit every August _____ his family to the seaside for change of air.
7. _____ at this stage would be a great pity.
8. It took him half an hour _____ the words in the dictionary.
9. It takes an effort _____ weight.
10. It's hardly necessary for me _____ how grateful I'm for all you've done.

UNIT 10. INTERNET AND LAN TECHNOLOGY. THE VERBALS.

Exercise 4. Match a line in A with a verb in B and a line in C.

A	B	C
1 I went for a walk	to make	the house smell nice.
2 I'm going to the library	to buy	a new car.
3 I went to town	to get	some friends.
4 I phoned the theatre	to change	how to get to my house.
5 I want to borrow some money	to visit	my books.
6 I bought some flowers	to explain	some fresh air.
7 I'm going to Paris	to do	some shopping.
8 I wrote to John	to ask	what time the play started.

Exercise 5. Tourists go to Switzerland to climb the mountains, or to ski, or to enjoy the scenery. They go to the USA to see New York, or to visit the West, or to practice English. Write ten sentences to say why tourists go to France, or to Britain, or to India, or to Japan, or to other countries.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

COMPLEX OBJECT

They	1) want wish would like expect	noun (mother, Ann) or	to read
	2) see watch notice hear feel make let	pronoun (objective case) me us you you him them her it	read or reading

UNIT 10. INTERNET AND LAN TECHNOLOGY. THE VERBALS.

- 1) They want Ann to read well.
- 2) They make me read more often.
or
- 3) They hear her reading at the lesson.

Exercise 6. Complete the sentences. Use the complex object.

1. "Bring me a book," said my mother to me. *My mother wanted me to bring a book.*
2. "Don't eat ice-cream before dinner," said our mother to us.
Our mother didn't want us to eat ice-cream before dinner.
3. "It will be very good if you study English," said my mother to me.
My mother wanted _____
4. "Come to my birthday party," said Kate to her boyfriend.

5. "Oh, father, buy me this toy, please," said the little boy.

6. "Learn the rule," the teacher said to the pupils.

7. "My son will study mathematics," the man said.

8. "Don't go to Iran," she said to me.

9. "Be careful, or else you will spill the milk," said my mother to me.
My mother didn't want _____
10. The teacher said to the pupils: "Learn the rules."

SEE SOMEONE DO AND SEE SOMEONE DOING

Exercise 7. Use the infinitives or participles in brackets as parts of complex object.

1. I saw Tom _____ (get) into his car and _____ (drive) away.
2. I saw Ann _____ (wait) for a bus.
3. I saw him _____ (fall off) the wall.
4. Did you see the accident _____ (happen)?
5. I saw him _____ (walk) along the street.
6. I've never seen her _____ (dance).
7. I didn't hear you _____ (come in).
8. Liz suddenly felt something _____ (touch) her on the shoulder.
9. Did you notice anyone _____ (go out)?
10. I could hear it _____ (rain).

PERSONAL/IMPRESONAL CONSTRUCTION (THE COMPLEX SUBJECT)

The verbs **think, believe, say, report, know, expect, consider, understand, etc.** are used in the following passive patters in personal and impersonal constructions.

- active:** People **say** that he **has lots** his job.
passive: a) **It is said** (that) he has lost his job. (impersonal construction)
 b) **He is said to have lost** job. (personal construction)
- active:** People **know** that she **works** hard.
passive: c) **It is known** (that) she **works** hard.
 d) **She is known to work** hard.
- active:** People **think** he **left** the country last night.
passive: e) **It is thought** (that) he **left** the country last night.
 f) **He is thought to have left** the country last night.

He <i>is said to know</i> six languages.	Кажуть , що він знає шість мов.
He <i>was said to know</i> six languages.	Казали , що він знає шість мов.
He <i>is said to have gone</i> to London.	Кажуть , що він поїхав до Лондону.
He <i>was said to have gone</i> to London.	Казали , що він поїхав до Лондону.

Exercise 8. Translate into English.

- Кажуть, що він кращий доктор в нашому місті.
- Передбачалося, що ми зустрінемося в 6:00 біля театру.
- Кажуть, що він працює в цьому інституті 15 років.
- Виявляється, він побував в Африці в минулому році.
- Кажуть, що вони продали будинок і поїхали жити а Нью-Йорк.
- Відомо, що він прожив довге і цікаве життя.
- Передбачається, що вони переїхали до Німеччини.

THE GERUND

The Gerund is always used after:

1. Such verbs as: avoid involve consider keep delay like deny love dislike prefer	1. <i>Stop</i> arguing and <i>start</i> working . 2. I <i>suggest</i> taking a taxi. 3. I don't <i>enjoy</i> going to the dentist. 4. Would you <i>mind</i> putting your pet snake somewhere else?
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<p>enjoy regret excuse risk finish start forgive stop hate suggest</p>	<p>5. I <i>love</i> going to discos. 6. The children <i>prefer</i> watching TV to reading. 7. She <i>risks</i> losing all her money. 8. She <i>denied</i> committing the crime.</p>
<p>2. Verbs followed by prepositions: accuse of look forward to agree to object to apologize for persist in approve of prevent from complain of rely on congratulate on stop from count on succeed in depend on suspect of feel like thank for give up think of insist on</p>	<p>1. He is <i>thinking of</i> leaving his job 2. They <i>succeeded in</i> finding a new flat. 3. <i>Thank you for</i> coming. 4. He was <i>accused of</i> having broken the law. 5. I <i>insisted on</i> his coming with us. 6. I <i>apologize for</i> being so awkward. 7. I don't <i>feel like</i> working. 8. We are <i>looking forward to</i> seeing you again. 9. She <i>suspected him of</i> deceiving her. 10. All the happiness of my life <i>depends on</i> your loving me.</p>
<p>3. Word combinations: be afraid of be guilty of be angry for be interested in be bored with be pleased at be busy be proud of be disappointed at be sorry for be engaged in be sure of be fond of be surprised at be good at be worried about be grateful for be worth can't stand be responsible for can't help be no use have difficulty in</p>	<p>1. She was <i>afraid of</i> falling. 2. He <i>couldn't help</i> laughing. 3. There is <i>no use</i> crying over split milk. 4. She was <i>sorry for</i> being rude. 5. He is <i>proud of</i> having won in the chess tournament. 6. Do you <i>have any difficulty in</i> getting a visa? 7. "The Titanic" is <i>worth</i> seeing. 8. Mr Snow is very <i>busy</i> writing his memoirs. 9. She <i>can't stand</i> going to discos. 10. Mike is <i>fond of</i> collecting stamps. 11. Jill is <i>good at</i> drawing.</p>
<p>4. Prepositions: after on before without instead of by in spite of</p>	<p>1. They ran five miles <i>without</i> stopping. 2. <i>Before</i> going to bed she locked the door. 3. John went to his office <i>in spite of</i> being ill. 4. You can improve your figure <i>by</i> doing gymnastics.</p>
<p>5. Verb+to-infinitive or -ing form: different meanings remember + to-infinitive = not forget remember + -ing form = recall</p>	<p>1. I must remember to call my parents tonight. 2. I'll always remember buying my first car.</p>

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forget + to-infinitive = not remember forget + -ing form = not recall	3. I forgot to turn off the air-conditioner. 4. I'll never forget sailing down the Nile.
stop + to-infinitive = stop briefly to do sth else stop + -ing form = finish, give up	5. She stopped to have a cup of coffee and then carried on with her work. 6. I think you should stop playing computer games during lessons.

Exercise 9. Use the Gerund of the verb in brackets in the active or passive voice.

- Why do you avoid _____ (to speak) to me?
- She tried to avoid _____ (to speak) to.
- The doctor insisted on _____ (to send) the sick man to hospital.
- The child insisted on _____ (to send) home at once.
- He showed no sign of _____ (to recognize) me.
- He showed no sign of _____ (to surprise).
- He had a strange habit of _____ (to interfere) in other people's business.
- I was angry of _____ (to interrupt) every other moment.
- So I see. You are good at _____ (to make) yourself at home.
- He looked forward to _____ (to meet) his parents.
- He hated _____ (to remind) people of their duties or _____ (to remind) of his.
- The operator can set the machine in motion by _____ (to push) the button or by _____ (to press) the pedal.
- Raymond didn't like _____ (to call) Ray.
- Do you mind _____ (to examine) the list?
- I appreciate _____ (to invite) to your house.
- He tried to avoid _____ (to see).

Exercise 10. Insert prepositions where necessary.

- Alice isn't interested _____ looking for a new job.
- You are capable _____ doing better work.
- She was afraid _____ going on public transport.
- He was looking forward _____ taking the tickets.
- Newton, the famous scientist, was sometimes engaged _____ working out difficult problems.
- Try to avoid _____ making him angry.
- Is there anything here worth _____ buying?
- I'm very sorry _____ being late. It was very good of you to wait for me.
- I have no objections _____ hearing your story again.
- We had difficulty _____ finding a parking place.
- He surprised us all _____ going away _____ saying "Good bye".

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12. Please forgive me _____ interrupting you but would you mind _____ repeating that last sentence?
13. There's no point _____ arriving half an hour early. We'd only have to wait.
14. I'm accused _____ having a big breakfast every morning.
15. The weather is awful tonight. I don't blame you _____ not wanting to go to the meeting.
16. Who is responsible _____ washing dishes after dinner?
17. The angry look on his face stopped me _____ speaking my mind.
18. I wish you do something to help, instead _____ standing there giving advice.
19. I'm accustomed _____ having a big breakfast.
20. You should take advantage _____ living here.
21. He showed us how to get to his house _____ drawing a map.
22. Mrs. Grant insisted _____ knowing the whole truth.
23. In addition _____ going to school full-time, Sam has a part-time job.
24. Where should we go for dinner tonight? Would you object _____ going to an Italian restaurant?
25. The thief was accused _____ stealing a woman's purse.
26. I'm not very good _____ learning languages.
27. How _____ playing tennis tomorrow?
28. She must be fed up _____ studying.
29. This knife is only _____ cutting bread.
30. Tom prefers working _____ doing nothing.

Exercise 11. Translate the sentences from Ukrainian into English.

1. Я люблю танцювати.
2. Пола кинула палити.
3. Я зараз шкодую про те, що сказав це.
4. Ти не проти того, щоб піти в кіно?
5. Вони заперечували те, що вкрали гроші.
6. Як ти думаєш, мій піджак потрібно почистити?
7. Лора ненавидить літати на літаку.
8. Я віддаю перевагу водити машину, а не їздити на велосипеді.
9. Він пробіг десять кілометрів без зупинки.
10. З нетерпінням чекаю зустрічі з тобою.

Exercise 12. Underline the correct form of the Participle.

1. The girl (writing, written) on the blackboard is our best friend.
2. Everything (writing, written) here is quite right.
3. The house (surrounding, surrounded) by tall trees is very beautiful.
4. The wall (surrounding, surrounded) the house was very high.

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5. Who is that boy (doing, done) his homework at that table?
6. The exercises (doing, done) by the pupils were easy.
7. The girl (washing, washed) the floor is my sister.
8. The floor (washing, washed) by Helen looked very clean.
9. We listened to the girls (singing, sung) Russian folk songs.
10. We listened to the Russian folk songs (singing, sung) by the girls.

Exercise 13. Open the brackets using the appropriate form of the participle.

1. _____ (to translate) by a good specialist, the story preserved all the sparkling humor of the original.
2. _____ (to wait) in the hall, he thought over the problem he was planning to discuss with the old lady.
3. _____ (to phone) the agency, he left _____ (to say) he would be back in two hours.
4. _____ (to write) in a very bad handwriting, the letter was difficult to read.
5. _____ (to spend) twenty years abroad he was happy to be coming home.
6. She looked at the enormous bunch of roses with a happy smile, never _____ (to give) such a wonderful present.
7. The girl was fascinated by the dark surface of the water _____ (to reflect) the stars.
8. _____ (to look) through the papers, he gave them to the secretary to be typed.
9. Except for the grand piano and the pianist _____ (to sit) before it, the stage was empty.
10. He looked at the scene _____ (to shake) to the depth of his heart.
11. The boy came out of the water, all blue and _____ (to shake) from head to foot.
12. The young foliage of the trees, _____ (to reflect) in the river, looked like lace.

HAVE SOMETHING DONE

We use have+object+past participle to say that we arrange for someone to do something for us.

e.g. Sandra is giving her car repaired at the moment. (Sandra is not repairing it herself – somebody else is repairing it.)

present simple	He fixes the tap.	He has the tap fixed .
present continuous	He is fixing the tap.	He is having the tap fixed .
past simple	He fixed the tap.	He had the tap fixed .
past continuous	He was fixing the tap.	He was having the tap fixed .
future simple	He will fix the tap.	He will have the tap fixed .
future continuous	He will be fixing the tap.	He will be having the tap fixed .
present perfect	He has fixed the tap.	He has had the tap fixed .
present perfect cont.	He has been fixing the tap.	He has been having the tap fixed .
past perfect	He had fixed the tap.	He had had fixed the tap .
past perfect cont.	He had been fixing the tap.	He had been having the tap fixed .

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infinitive	He must fix the tap.	He must have the tap fixed .
-ing form	It's no use fixing the tap.	It's no use having the tap fixed .

- Questions and negations of the verb have are formed with **do/does** in the present simple and **did** in the past simple. e.g. **Do you have** your hair cut every month? **Did she have** the house cleaned?
- We can also use **have something done** to express that unpleasant happened to somebody. e.g. Mary had her purse stolen yesterday. (=Mary's purse was stolen. This sentence shows that this unpleasant incident happened to her.)
- We can use the verb **get** instead of the verb have only in informal conversation. e.g We must **get** the fridge repaired soon. (=We must **have** the fridge repaired soon.)

Exercise 14. Make sentences using the prompts below, as in the example.

1. The grass needs cutting.
I know. I'm getting it cut tomorrow.
2. The windows need cleaning.
3. The fence needs painting.
4. The report needs typing.
5. The car needs servicing.

Exercise 15. Something unpleasant happened to each of these people last week. Make sentences using have something done.

1. Mark (his bike/steal) from outside the grocer's.
Mark had his bike stolen from outside the grocer's.
2. Little Jenny (her hair/pull) at school.
3. My uncle (his garage/break into) by car thieves.
4. Tara (her bag/steal) in restaurant.
5. Steve (his downstairs window/smash) by a falling tree.

Exercise 16. Study the situations, then write the answers using have something done.

1. Tony is going to the dentist's for a check-up tomorrow. What's he going to do?
...He is going to have his teeth checked...
2. Their house is very cold. Installing central heating would help. What should they do?

3. James has written some songs and they're going to be recorded. What is James going to do?

4. Sarah is at the hairdresser's. The hairdresser is cutting her hair. What is Sarah doing?

5. The baker has made a special cake for Joan. What has Joan done?

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6. Their windows are very dirty. What should they have done?

7. Chaire's shoes are made by hand especially for her. What does Chaire do?

8. Sam has paid the plumber for repairing his washing machine. What has he done?

9. Simon's arm was X-rayed yesterday. What happened at the hospital?

Exercise 17. Rewrite sentences using have something done.

1. The money was deposited in his account by the company.
...He had the money deposited in his bank account...
2. Sarah's new fridge be delivered tomorrow.

3. Tim's car was serviced last week.

4. Mrs Scott's cat as examined by the vet yesterday.

5. Paul's house will be painted next weekend.

6. Mr Brown's book has just been published.

7. Becky's hair is done every week.

8. Edward's dinner was cooked by his mother yesterday.

9. Jane's living room is doing to be redecorated next month.

10. My eyes are tested by the optician.

Exercise 18. State the difference between the sentences and translate them into Ukrainian.

1. I want to have my dress made.
I want to make a dress.
2. He brought his things to the station.
He had his things brought to the station.
3. You must tidy the room.
You must have the room tidied.
4. I want to paper the walls.
I want to have the walls papered.

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5. Tom wanted to whitewash the fence.

Tom wanted to have the fence whitewashed.

6. I want to have the dishes washed and dried.

I want to wash and dry the dishes.

7. The boy has repaired his shoes.

The boy has had his shoes repaired.

8. She wants to polish her shoes.

She wants to have her shoes polished.

Exercise 19. Here is a story called "A Short Affair with Molly". Complete the story matching the first part of each sentence with its correct ending.

Example:

One romantic evening I went to the dance specially

1. I wanted to ask her

2. She was very happy and said that of course she would

3. So the very next day we went to church

4. For a short time we enjoyed

5. But one day Molly began closing her door so as

6. Then she started going out and

7. Soon, I too was sorry I had ever

8. But when she was out I didn't like

9. So I too went out in order

a) to be alone.

b) being alone.

c) to meet Molly.

d) met Molly.

e) to be married.

f) meeting someone else.

g) to marry me.

h) marry me.

i) to meet someone else.

j) being married.

Exercise 20. Put the verbs in brackets into the correct form.

My mother is an amazing woman. She is 87 years old and she still enjoys 1) going out

(go out) for a walk every day. She doesn't mind 2) _____(do) all her housework and she's glad

3) _____(help) her elderly neighbours when they can't 4) _____(go) to the shops.

She's too old 5) _____(dig) the garden any more – she stopped 6) _____

(do) that last year – but she's still healthy enough 7) _____(mow) the grass! In the summer she

still goes 8) _____(swim) when it's warm and she lets her grandchildren 9)

_____ (bury) her in the sand. She often says, "It's no good 10) _____(be) alive if you

don't enjoy yourself." I'd love 11) _____(be) like my mother when I'm her age.

Exercise 21. Underline the correct form of the Participle.

1. The girl (writing, written) on the blackboard is our best friend.

2. Everything (writing, written) here is quite right.

3. The house (surrounding, surrounded) by tall trees is very beautiful.

4. The wall (surrounding, surrounded) the house was very high.

5. Who is that boy (doing, done) his homework at that table?

6. The exercises (doing, done) by the pupils were easy.

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7. The girl (washing, washed) the floor is my sister.
8. The floor (washing, washed) by Helen looked very clean.
9. We listened to the girls (singing, sung) Russian folk songs.
10. We listened to the Russian folk songs (singing, sung) by the girls.

Exercise 22. Underline the correct form of the Participle.

1. I enjoyed the book. It was very (interested, interesting).
2. They were (shocked, shocking) when they heard the news.
3. He thought the story was (amused, amusing).
4. I was (worried, worrying) when she didn't come home.
5. It was (surprised, surprising) that she didn't come to the station.
6. I usually find hockey rather (bored, boring).
7. Are you (interested, interesting) in biology?
8. She was far too (frightened, frightening) to call.
9. (Paralyzed, paralyzing) with terror he did not know what to do.
10. Janet will be (disappointed, disappointing) if she fails the exams

WRITING/SPEAKING TASK

Make oral or written reports on the topics:

- Next generation Internet;
- The most interesting places you have explored on the Internet;
- The place of computer technology in our culture;
- Internet as the way of exploring the world.

UNIT 11
NETWORKS

Vocabulary Bank Unit 11

Task 1. Memorize the following words and word-combinations:

- | | |
|----------------------------------|------------------------|
| 1. associated | 18. local-area network |
| 2. accept | 19. network |
| 3. allow, enable | 20. node |
| 4. bridge | 21. optical fibre |
| 5. cohesive architecture | 22. particular |
| 6. common | 23. seamless |
| 7. convert data | 24. search engine |
| 8. cover | 25. searching software |
| 9. dictate | 26. share resources |
| 10. establish | 27. sophisticated |
| 11. gateway | 28. tap into a network |
| 12. high-capacity storage device | 29. transfer point |
| 13. implement | 30. typically |
| 14. individual | 31. variety |
| 15. interconnect | 32. wide-area network |
| 16. Internet backbone | 33. wiring technology |
| 17. introduce | |

Text 11 A. COMPUTER NETWORKS

A computer network is a series of connections and associated devices through which computers can communicate with other computers. A computer network consists of two or more computers that are interconnected in order to share resources (such as printers), exchange files, or allow electronic communications. In a computer network the individual stations, called "nodes", may be computers, terminals, or communication units of various kinds. The computers on a network may be linked through cables, telephone lines, radio waves, satellites, or infrared light beams.

In addition to physically connecting computers and communication devices, a network system has the function of establishing a cohesive architecture that allows almost seamless data transmission while using various equipment types. Open System Interconnection (OSI) and IBM's System Network Architecture are two popular architectures used at present.

Local-area networks and wide-area networks are two basic network types.

A local-area network (LAN) is a computer network that covers a local area. It may be a home, office or small group of buildings such as a college or factory. The topology of a network dictates its physical structure. The generally accepted maximum size for a LAN is 1 square km. At present, there are two common wiring technologies for a LAN, Ethernet and Token Ring. A LAN typically includes two or more PCs, printers, CD-ROMs and high-capacity storage devices, called file servers, which enable each computer on the network to access a common set of files. A LAN is controlled by LAN operating system software. LAN users may also have access to other LANs or tap into wide-area networks. LANs with similar architectures are linked by transfer points, called "bridges", and LANs with different architectures use "gateways" to convert data as it passes between systems. A router is used to make the connection between LANs.

A wide-area network (WAN) is a computer network that covers a wide geographical area, involving a large number of computers. Computer networks may link the computers by means of cables, optical fibres, or satellites and modems. Typically, WANs are used to connect LANs together. Many WANs are built for one particular organization and are private, others, built by Internet service providers, provide connections from an organization's LAN to the Internet. WANs are most often built of leased lines. At each end of the leased line, a router is used to connect to the LAN on one side and a hub within the WAN on the other.

The best example of a WAN is the Internet, a collection of networks and gateways linking millions of computer users on every continent. Networks within the Internet are linked by common communication programs and protocols. A protocol is a set of established standards that enable computers to communicate with each other. A number of network protocols such as TCP/IP, X.25, ATM and Frame relay can be used for WANs. By means of the Internet, users can obtain a variety of information browsing via buttons, highlighted text, or sophisticated searching software known as search engines.

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Task 2. Answer the questions.

1. What is a computer network?
2. What does a computer network consist of?
3. What are computers on a network connected for?
4. What is a “node” in a computer network?
5. How may the computers on a network be linked?
6. What function does a network system have in addition to physically connecting computers and communication devices?
7. What are the two popular architectures used at present?
8. What is a local-area network?
9. What dictates the physical structure of a network?
10. What is the generally accepted maximum size for a LAN?
11. What wiring technologies for a LAN are there at present?
12. What does a LAN typically include?
13. What is a LAN controlled by?
14. What may LAN users have access to?
15. What is a “bridge”?
16. What is a “gateway”?
17. What is a router used for?
18. What is a wide-area network?
19. How may computer networks be linked?
20. What are WANs typically used for?
21. What do WANs built by Internet providers provide?
22. What are WANs most often built of?
23. What is the Internet?
24. What are networks within the Internet linked by?
25. What is a network protocol?

Task 3. Give synonyms (a) and antonyms (b) for the words below:

a) tap into sth, allow, link, cover (охоплювати), area, variety, seamless, various, common, topology, particular, typically, via;

b) transmission, highlight, allow, enable, cover (накривати), accept, variety, individual, various, different, particular, generally, connect.

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Task 4. Which of the sentences below are true and which of them are false? Correct the false ones.

1. Increasing processing speed is the main idea of a computer network.
2. In a computer network the individual stations, called "nodes", may be computers, terminals, or communication units of various kinds.
3. The computers on a network may be linked through a communications network called a bus.
4. In addition to physically connecting computers and communication devices, a network system has the function of establishing a cohesive architecture that allows converting data as it passes between systems.
5. Ethernet and Token Ring are two popular network architectures used at present.
6. A local-area network is a computer network that covers a local area.
7. The size of a network dictates its physical structure.
8. The generally accepted maximum size for a LAN is 1 square mile.
9. A LAN typically includes two or more PCs, printers, CD-ROMs and high-capacity storage devices, called transfer points, which enable each computer on the network to access a common set of files.
10. A LAN is controlled by LAN operating system software.
11. LANs with similar architectures are linked by transfer points, called "nodes", and LANs with different architectures use "bridges" to convert data as it passes between systems.
12. A hub is used to make the connection between LANs.
13. A wide-area network is a computer network that covers a wide geographical area, involving a large number of gateways.
14. Computer networks may link the computers by means of cables, optical fibres, or satellites and modems.
15. Typically, WANs are used to connect LANs together.
16. Many WANs are built for one particular organization and are personal, others, built by Internet service providers, provide connections from a person's LAN to the Internet.
17. WANs are most often built of leased lines.
18. At each end of the leased line, a hub is used to connect to the LAN on one side and a modem within the WAN on the other.
19. The Internet is a collection of routers and bridges linking millions of computer users on a particular continent.
20. A protocol is system software that enables computers to access a set of common files.

Task 5. Give Ukrainian equivalents of the following English word-groups:

to consist of two or more computers; in order to share resources; to exchange files; to allow electronic communications; individual stations; communication units of various kinds; computers on a network; infrared light beams; in addition to physically connecting computers; the function of establishing a cohesive architecture; to allow almost seamless data transmission; various equipment types; at present; to cover a local area; file server; the generally accepted maximum size for a LAN; two common wiring technologies; to access a common set of files; to tap into wide-area networks; LANs with similar/different architectures; particular organization; Internet service providers; to provide connections from an organization's LAN to the Internet; to be built of leased lines; a collection of networks and gateways; millions of computer users on every continent; networks within the Internet; established standards; to enable computers to communicate with each other; a number of network protocols;

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by means of the Internet; a variety of information; to browse via buttons and highlighted text; sophisticated searching software known as search engines.

Task 6. Give English equivalents of the following Ukrainian word-groups:

комп'ютери в мережі; файловий сервер; окремі станції; встановлені стандарти; провайдери Інтернет-послуг; в даний час; мережі всередині Інтернету; складні пошукові програмні засоби; дві поширені технології з'єднання; за допомогою Інтернету; здійснювати обмін файлами; здійснювати перегляд за допомогою клавіш та виділеного тексту; промені інфрачервоного світла; відомі як пошукові системи; дозволяти комп'ютерам встановлювати зв'язок між собою; забезпечувати зв'язок локальної мережі організації з Інтернетом; різноманітна інформація; сукупність мереж і шлюзів; декілька мережевих протоколів; конкретна організація; робити можливим електронний зв'язок; уможливлувати майже безперервну передачу даних; мати доступ до спільного набору файлів; охоплювати локальну територію; мільйони користувачів з усіх континентів; крім фізичного з'єднання комп'ютерів; підключатися до глобальних мереж; для того, щоби спільно використовувати ресурси; загальноприйнятий максимальний розмір для локальної мережі; функція створення зв'язної архітектури; складатися з двох або більше комп'ютерів; різні типи обладнання; пристрої зв'язку різних типів; локальні мережі подібної/різної архітектури.

Task 7. Complete the sentences by properly using the words given in brackets below. Mind the correct grammar form!

1. A computer network ... computers.
2. The ... may be linked ... cables, telephone lines, radio waves, satellites, or infrared light beams.
3. ... physically connecting computers and communication devices, a network system has the function of ... a cohesive architecture that ... data transmission while using various equipment types.
4. A local-area network ... a local ...
5. The ... of a network ... its physical structure.
6. ... , there are two ... wiring technologies for a LAN, Ethernet and Token Ring.
7. LAN users may also ... wide-area networks.
8. Many WANs are built for one ... organization and are private.
9. The Internet is a ... of networks and gateways linking millions of computer users on ... continents.
10. ... the Internet, users can ... a variety of information browsing ... of buttons, highlighted text, or sophisticated searching software known as search engines.

(by means of; be made up of; smooth; widespread; with the help of; all; currently; along with; enable; territory; specify; connect to; creating; set; specific; networked computers; get; by the use; embrace; configuration; multiple)

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Task 8. Make up all possible questions to the sentences below.

1. A computer network consists of two or more computers.
2. A local-area network covers a local area.
3. The topology of a network dictates its physical structure.
4. At present, there are two common wiring technologies for a LAN.
5. File servers enable each computer on the network to access a common set of files.
6. A LAN is controlled by LAN operating system software.
7. LAN users may also have access to other LANs or tap into wide-area networks.
8. "Gateways" convert data as it passes between systems.
9. A router is used to make the connection between LANs.
10. WANs are most often built of leased lines.

Task 9: Match the columns in order to complete the definitions.

1. A **gateway** is an interface...
2. A **bridge** is a hardware and software combination...
3. A **backbone** is a network transmission path...
4. A **router** is a special computer...
5. A **network** is a number of computers and peripherals...
6. A **LAN** is a network...
7. A **server** is a powerful computer...
8. A **client** is a network computer...
9. A **thin client** is a simple computer...
10. A **hub** is an electronic device...

- () ...connecting computers over a small distance such as within a company.
- () ...directing messages when several networks are linked.
- () ...used for accessing a service on a server.
- () ...connecting all the data cabling in a network.
- () ...used to connect the same type of networks.
- () ...comprising a processor and memory, display, keyboard, mouse and hard drives only.
- () ...linked together.
- () ...enabling dissimilar networks to communicate.
- () ...handling major data traffic.
- () ...storing data shared by all the clients in the network.

Task 10. Read the text, write down the words you don't know into your vocabulary and do the exercises below.

TEXT 11 B. NETWORK COMMUNICATIONS

The application layer is the only part of a communications process that a user sees, and even then, the user doesn't see most of the work that the application does to prepare a message for sending over a network. The layer converts a message's data from human-readable form into bits and attaches a header identifying the sending and receiving computers.

The presentation layer ensures that the message is transmitted in a language that the receiving computer can interpret (often ASCII). This layer translates the language, if necessary, and then compresses and perhaps encrypts the data. It adds another header specifying the language as well as the compression and encryption schemes.

The session layer opens communications and has the job of keeping straight the communications among all nodes on the network. It sets boundaries (called bracketing) for the beginning and end of the message, and establishes whether the messages will be sent half-duplex, with each computer taking turns sending and receiving, or full-duplex, with both computers sending and receiving at the same time. The details of these decisions are placed into a session header.

The transport layer protects the data being sent. It subdivides the data into segments, creates checksum tests - mathematical sums based on the contents of data - that can be used later to determine if the data was scrambled. It can also make backup copies of the data. The transport header identifies each segment's checksum and its position in the message.

The network layer selects a route for the message. It forms data into packets, counts them, and adds a header containing the sequence of packets and the address of the receiving computer.

The data-link layer supervises the transmission. It confirms the checksum, then addresses and duplicates the packets. This layer keeps a copy of each packet until it receives confirmation from the next point along the route that the packet has arrived undamaged.

The physical layer encodes the packets into the medium that will carry them - such as an analogue signal, if the message is going across a telephone line - and sends the packets along that medium.

An intermediate node calculates and verifies the checksum for each packet. It may also reroute the message to avoid congestion on the network.

At the receiving node, the layered process that sent the message on its way is reversed. The physical layer reconverts the message into bits. The data-link layer recalculates the checksum, confirms arrival, and logs in the packets. The network layer recounts incoming packets for security and billing purposes. The transport layer recalculates the checksum and reassembles the message segments. The session layer holds the parts of the message until the message is complete and sends it to the next layer. The presentation layer expands and decrypts the message. The application layer converts the bits into readable characters, and directs the data to the correct application.

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Task 11. Fill in the blanks with the proper word from the text 11B.

1. The message is _____ into bits by the _____ layer.
2. The _____ layer confirms the arrival of the packets, logs them in, and calculates the _____ for each packet.
3. The incoming _____ are recounted by the network layer for security and billing purposes.
4. The checksum is re-_____ by the transport layer which also reassembles the message segments.
5. The parts of the message are held _____ the session layer _____ the message is complete. Then it sends the message to the next _____.
6. The message is compressed and _____ by the presentation layer.
7. The application layer converts the bits into _____ characters, and _____ the data to the correct application.

Task 12. Mark the following statements true or false.

1. Most of the work that an application does to prepare a message for sending over a network is not seen by the user.
2. ASCII is always used to transmit data.
3. The encryption layer compresses the message.
4. The network layer keeps track of how many packets are in each message.
5. The network layer keeps a copy of each packet until it arrives at the next node undamaged.
6. Analogue signals are used on ordinary telephone lines.
7. When a message arrives at its destination, it passes through the same seven network communications layers as when it was sent, but in reverse order.

Task 13. Find the answers to these questions in the text 11B.

1. Into what units is data subdivided by the following layers?
 - a. transport layer
 - b. network layer
2. What is the purpose of a transmission checksum test?
3. How long does the data-link layer keep a copy of each packet?
4. What processes can be carried out at intermediate nodes?
5. Which network communications layer is described by each of the following statements?

Task 14. Translate the sentences into English.

1. Комп'ютерна мережа – це сукупність з'єднань і взаємопов'язаних пристроїв, за допомогою яких комп'ютери можуть встановлювати зв'язок з іншими комп'ютерами.
2. Комп'ютерна мережа складається з двох або більше комп'ютерів, які взаємопов'язані, щоби спільно використовувати ресурси, здійснювати обмін файлами, або зробити можливим електронний зв'язок.

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3. В комп'ютерній мережі окремими станціями, що звуться "вузлами", можуть бути комп'ютери, термінали, або пристрої зв'язку різних типів.
4. Комп'ютери в мережі можуть бути зв'язані кабелями, телефонними лініями, радіохвилями, супутниками, або інфрачервоними променями.
5. Крім фізичного з'єднання комп'ютерів і пристроїв зв'язку мережева система має функцію створення зв'язної архітектури, яка уможливорює практично безперервну інформації при використанні різних типів обладнання.
6. Локальні і глобальні мережі – це два основні види мереж.
7. Локальною мережею є комп'ютерна мережа, яка охоплює локальну територію.
8. Нею може бути житло, установа, або невелика група будівель, така, як коледж або фабрика.
9. Топологія мережі зумовлює її фізичну структуру.
10. Загальноприйнятим максимальним розміром для локальної мережі є 1 кв. км.
11. В даний час для локальної мережі існує дві поширені технології з'єднання: Ethernet і Маркерне кільце.
12. Локальна мережа зазвичай включає пристрої пам'яті великої ємності, що мають назву файлові сервери, які дозволяють кожному комп'ютеру в мережі мати доступ до спільного набору файлів.
13. Локальною мережею керує програмне забезпечення операційної системи локальної мережі.
14. Користувачі локальної мережі можуть також мати доступ до інших локальних мереж або підключатися до глобальних мереж.
15. Локальні мережі схожої архітектури з'єднуються точками переходу, що мають назву "мости".
16. Локальні мережі різної архітектури застосовують "шлюзи" для перетворення (to convert) інформації, коли вона проходить між системами.
17. Маршрутизатор застосовується для встановлення зв'язку між локальними мережами.
18. Глобальною мережею є комп'ютерна мережа, яка охоплює велику географічну територію, включаючи велику кількість комп'ютерів.
19. Зазвичай глобальні мережі застосовуються для об'єднання локальних мереж.
20. Багато глобальних мереж будуються для однієї конкретної організації і є приватними.
21. Інші, що створюються провайдером Інтернет-послуг, забезпечують зв'язок локальної мережі організації з Інтернетом.
22. Найчастіше глобальні мережі створюються з виділених ліній.
23. На кожному кінці виділеної лінії застосовується маршрутизатор для зв'язку з локальною мережею з одного боку, і хаб всередині глобальної мережі – з другого.
24. Найкращим прикладом глобальної мережі є Інтернет – сукупність мереж і шлюзів, які з'єднують мільйони користувачів з усіх континентів.
25. Мережі всередині Інтернету з'єднуються звичайними комунікаційними програмами і протоколами.
26. Протокол – це сукупність встановлених стандартів, які дозволяють комп'ютерам встановлювати зв'язок між собою.
27. За допомогою Інтернету користувачі мають змогу отримувати різноманітну інформацію, здійснюючи перегляд із застосуванням клавіш, виділеного тексту, або складних пошукових програмних засобів, відомих як пошукові системи.

GRAMMAR REVIEW**QUESTIONS****1. General questions**

They begin with an auxiliary verb (Yes / No questions)

Tense	Question
Present Simple	Do you live in London? / Does he live in London? we she I it they Are you (a) student(s)? / Is he a student? we she they it
Present Continuous	Are you working now? / Is he working now? we she they it Am I working now?
Present Perfect	Have you been to London? / Has he been to London? we she they it I
Present Perfect Continuous	Have we been waiting here long? / Has he been waiting here long? you she I they it
Past Simple	Did I see Tom yesterday? Were you at home yesterday? We we you they they Was he he she she it it
Past Continuous	Were you watching TV at 7 o'clock yesterday? we they Was he watching TV at 7 o'clock yesterday? she it I
Past Perfect	Had Sally done the work by the time the boss came?
Future Simple	Will Sally stay at home tomorrow?
Future Continuous	Will Sally be working all day tomorrow?

UNIT 11. NETWORKS. QUESTIONS FORMS. GRAMMAR REVISION.

Modal Verbs	Can you help me? Must he send you the documents?
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2. Special questions

They begin with a question-word (**why, who, what, where, when, how, whose, which**) or word-combinations: **how + adjective / adverb; what + noun**

Tense	Questions
Present Simple	Why | do you | like abstract art? | does he | Why | are they | busy? | is he |
Present Continuous	What | are you | doing now? | is he |
Present Perfect	How many letters | have | you | sent yet? | has | he |
Present Perfect Continuous	How long | have they | been studying English? | has she |
Past Simple	Who did | you | | he | see at the meeting yesterday? | they etc. |
Past Continuous	What | were you, they, | doing when we arrived? | was he, she, it, I |
Past Perfect	Where had | he | | she | lived before he (she, they) moved to Paris? | they etc. |
Future Simple	What will | you | | he | do in summer? | they etc. |
Future Continuous	Where will | you | | they | be staying while in Paris? | he etc. |
Modal Verbs	Where can I leave my bags? When should they contact you?

Note! If a question has a preposition it is usually put at the end of the sentence.

E.g.: She was talking **to** an old friend.

Who was she talking **to**?

He is looking **at** his girl-friend.

Who is he looking **at**?

3. Alternative questions

They begin with an auxiliary verb and have **or** + an alternative

E.g.: Do you like classical **or** pop music?
Have you bought five **or** six cakes?
Did they stay in London **or** in Brighton?

4. Tag-questions

They are formed with the auxiliary verb used to form general questions in each grammar tense. If the sentence is positive, the tag question is negative and if it is negative, the tag-question is positive.

E.g.: He likes cats, **doesn't** he?
They are not our students, **are** they?
She has been working here for five years, **hasn't** she?
There are no armchairs here, **are** there?

But! I am right, **aren't** I?

We put the tag-question "**will you**" at the end of a request to make it more polite.

E.g.: Close the door, **will you**?

We put the tag-question "**shall we**" at the end of a question if it is a suggestion to do something together.

E.g.: Let's go to the garden to have tea, **shall we**?

Questions to the subject of the sentence or its attribute

Questions to the **subject** of the sentence or **its attribute** begin with "**who**", "**what**", "**which**" "**whose**". They don't change the structure and word order of the sentence.

E.g. She was there with us.

Who was there with us? – She was.

E.g. Who **has** done this exercise? – We **have**.

E.g. Two of them liked our proposal.

Which of them liked our proposal? – Two of them did.

Remember: "Who" is always singular.

Questions to the subject and object of the sentence

If the subject and object of the sentence are personal nouns the question starts with "who", but the word order is different.

Compare:

E.g. Mary saw Claire at the station.

Who saw Claire at the station? – Mary did.

Who **did** Mary see at the station? – Mary saw Claire.

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GRAMMAR EXERCISES

Question phrases:

- **What time** is your friend arriving? - Half past eight.
- **What kind of/what sort of** club is it? - A nightclub.
- **How often** do you go out? - About once a week.
- **How long** will the meeting last? - An hour or so, I expect.
- **How much** money did you spend? - About a hundred pounds.
- **What colour** is your toothbrush? - Yellow.
- **How old** is your sister? - She's twenty.
- **How far** is the beach? - Only five minutes' walk.
- **How many** televisions have you got? - Three.

Exercise 1. Complete with the correct question word

1. _____ much are the potatoes? One dollar.
2. _____ can I do for you? I want two white T-shirts.
3. _____ can I get a newspaper? In Park Street.
4. _____ is your best friend? It's Paul.
5. _____ does Lisa live? In Boston.
6. _____ colour is your new car? It's white.
7. _____ do you collect? Stickers.
8. _____ can help me? I can.
9. _____ about some grapes? No, thanks.
10. _____ was your first word as a baby? Mama.
11. _____ were you born? On March 9th.
12. _____ were you born? In St. Maarten.
13. _____ were you last Sunday? I was working.
14. _____ can we have a picnic? I know a nice place near a pond.
15. _____ are you going to take with you? Some sandwiches and a coke.

Yes/No (general) questions

1. asking for information: *Are you ready? – Yes, nearly / No, not quite*
Has anyone seen my bag? - Yes, it's on the chair. / No, I don't think so.
2. making a suggestion: *Shall we eat out tonight?*
3. requesting: *Can/could you write the address down for me, please?*
4. offering: *Can I carry something for you? – No, it's OK, thank you.*
5. inviting: *Would you like to come to the party? – Yes, I'd love to.*
6. asking permission: *May I use your phone? – Yes, of course.*

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Exercise 2. Ask questions which have been pre-planned.

Model: *You want to know if Mark has been to Los Angeles?*

Has Mark been to Los Angeles?

1. You aren't sure if Rachel and Vicky are going to America. Ask them.
2. You want to know if Laura plays tennis. Ask Trevor.
3. You are wondering if Claire enjoyed her holiday. Ask her.
4. You want to suggest to Rachel that you both go for a walk.
5. You need to know if David will be at the club tonight. Ask him.
6. You want to know if the train is on time. Ask Mark.
7. You are wondering if Mike and Harriet go camping. Ask David.
8. You want to ask Matthew if you can borrow his squash racket.
9. You want to know if Nick has got a motor bike. Ask him.

Exercise 3. Quiz champion Claude Jennings is answering questions. Put in these words and phrases: how far, how long, how often, how many, what, what colour, what kind, when, where, who

Quiz-master:

1. _____ is the Greek flag?
2. _____ centimetres are there in a kilometre?
3. _____ is Melbourne?
4. _____ did the Second World War start?
5. _____ did Romeo love?
6. _____ is Sirius?
7. _____ is it from Los Angeles to San Francisco?
9. _____ of food is Cheddar?
10. _____ is a game of rugby?

Claude:

Blue and white
A hundred thousand
It's in Australia
In 1939
Juliet
It's a star.
About 400 miles
It's cheese
Eighty minutes

Subject/object questions

Subject	Object
<ul style="list-style-type: none"> Who likes jazz? Who is helping you? Who is talking to you? What makes you think so? What wine goes with fish? 	<ul style="list-style-type: none"> Who did you ring? Who are you helping? What does this colour go with?
<ul style="list-style-type: none"> Which program is on now? Whose dog is barking over there? 	<ul style="list-style-type: none"> Which program are you watching? Whose dog is Melanie walking?

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Exercise 4. *Harriet is visiting her grandmother, Mrs Evans. It's Mrs Evans's birthday. She can't hear very well, and she sometimes gets confused. Complete her questions.*

Harriet	Mrs Evans
1. So ten people have sent cards	Pardon? How many people have sent cards?
2. I met David's friend yesterday	What? Whose _____
3. You can keep these photos.	Photos? Which _____
4. Those flowers look lovely.	Do they? Which _____
5. Fifty pounds went missing.	Missing? How much _____
6. I passed Mark's house earlier.	Pardon? Whose _____
7. The doctor has four children.	Really? How many _____

Prepositions in Wh-questions

I. Who are **you waiting for**? – Rachel.

What's Nick **laughing at**? – Oh, one of Tom's jokes.

Where are you from?/ Where do you come from? – Bombay.

II. **What... for?** (Для чего? Зачем?) What did you buy this computer magazine for? – To read about business software. What are these bricks for? – We are going to build a wall.

(Why?) Why are they digging up the road?

What ... like? What was the party like? What's the place like where you live?

What does your friend look like? – She's very tall and blond.

How ...? (asking about someone's well-being) How are you? How are you getting on in your new job?

How are you getting on at school/college, etc?

Exercise 5. *Put in the question. Use what and put the preposition in brackets at the end.*

1 - Tom is smiling. He's pleased. (about)

- Yes, he is. What is he pleased about?

2 - I am busy today. I'm getting ready (for)

- _____

3 - I've done something awful. I'm ashamed. (of)

- _____

4 - Haven't you heard of Kitty Beamish? She's famous. (for)

- No, I haven't. _____

5 - Mark is annoyed. He's going to complain. (about)

- _____

6 - Emma's in a hurry. She's going to be late. (for)

- _____

7 - I don't feel very relaxed. I feel nervous.

- _____

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Exercise 6. *Trevor has just come home from work. Complete the conversation. Put in for, how, like, what.*

- Hello, my love. _____ are you?
- Hello. I'm all right, but I'm in a bit of a rush getting ready for the barbecue.
- Er, I forgot to tell you that I invited two more people.
- _____ are you telling me now? _____? I've bought all the food. I just hope there's enough. Anyway, who are these people? _____ are they? _____?
- They're friends of Harriet's. They're very nice people. And after all, _____ are parties _____? To meet new people.
- It isn't a party. It's a barbecue. _____'s the weather going to be _____?
- The forecast said it's going to be perfect. Warm and dry.
- Good. And _____ was your day?
- Oh, not too bad. Busy as usual.

Exercise 7. *Use the prompts to make a question. Then choose answer A, B or C.*

Example: you know/ what/ be/ the capital of Argentina? -Do you know what the capital of Argentina is?

1. you know/ how long/ be/ the River Nile?
2. you know/ where/ be Lake Titicaca?
3. you know/ what colour/ be/ the flag of Mali?
4. you know/ how many states/ there be/ in Australia?
5. you know/ how high/ be/ Mount Everest?
6. you know/ what/ be/ the capital of the Republic of Gambia?
7. you know/ how many/ has got/ official languages/ Switzerland?
8. you know/ what/ be/ the Finnish name for Finland?
9. you know/ what/ be the population of the Republic of San Marino?

Ex. A Montevideo B Buenos Aires C Valparaiso

1. A 6,695 km B 8,695 km C 10,695 km
2. A between Bolivia and Peru B in central Asia C on an island near Hawaii
3. A red, white and blue stripes B green, yellow and red stripes C blue and white stripes
4. A 12 B 9 C 8
5. A 6,848 metres B 7,848 metres C 8,848 metres
6. A Conakry B Thimphu C Banjul
7. A 4 B 3 C 2
8. A Republika e Shqiperse B Suomen tasavalta C Eesti Vabariik
9. A about 270,000 B about 27,000 C about 2,7 million

Check the answers. Ex. B 1.A 2.A 3.B 4.C 5.C 6. C 7.A 8.B 9.B

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Exercise 8. Rewrite each question beginning as shown. Check the factual answers.

Example: Where is Llanfairpwllgwyngyllgogerychwyrndrobwlllllantyslliogogoh?- Do you know where Llanfairp(etc) is?

1. Is it the name of a real place? Do you have any idea _____?
2. Was it an invented name? Can you tell me _____?
3. Why did they decide to make up a name? I wonder _____?
4. What do the local people say? Could you tell me _____?
5. Where does the name Taumatawhakatangihangakoauauotamateaturipukakapikimaungahoronukupokai-whenuakitanatahu come from? Do you have any idea _____?
6. How do you pronounce it? Do you know _____?
7. What does it mean? Do you understand _____?
8. Which language is this word from? Can you tell me _____?
9. What's the longest place name in your country? Could you tell me _____?

LLANFAIRPWLLGWYNGYLLGOGERYCHWYRNDROBWLLLLANTYSILIOGOGOGO is according to one source the longest place name in the world, with 58 letters. It is a town in North Wales meaning 'St Mary's Church in the hollow of the white hazel near to the rapid whirlpool of Llantysilio of the red cave Ol' 'St Mary's (Church) by the white aspen over the whirlpool, and St Tysilio's (Church) by the red cave in Welsh. Local people apparently invented the name for the railway station in order to encourage tourism.

TAUMATAWHAKATANGIHANGAKOAUAUOTAMATEATURIPUKAKAPIKIMAUNGAH ORONUKUPOKAIWHENUAKITANATAHU is the name of a hill in Southern Hawke's Bay in New Zealand. Taumata was a Maori chief, and the word apparently means 'The summit of the hill', where Taumata, who is known as the land eater, slid down, climbed up and swallowed mountains, and played on his nose flute to his loved one.

Negative Questions

I. Negative yes/no questions.

Express:

- surprise: **Haven't you done** it yet? **Don't the children want** the ice-cream?
- a complaint or an impolite request: **Can't you sit** down? You're blocking the way.
- instead of a tag question: **Aren't you** a friend of Harriet's? (You're a friend of Harriet's, aren't you?)

Answers: - Yes – a positive answer: **Haven't you repaired** your car yet? – Yes, I did it yesterday.

Haven't you repaired your car yet? – No, sorry. I haven't had time.

II. Negative wh-questions

Express:

- suggestion: **Why don't you put** the shelves up now? – Well, all right.
Why don't we sit on the balcony? – Good idea.
- criticism: **Why didn't you do** that yesterday?
- asking for information: **Who hasn't checked** their baggage in? – Oh, I haven't. Sorry.
What don't you understand? – This paragraph here.

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Exercise 9. Complete the conversations using the words in brackets.

1. - I walked home from the town centre. (take/bus)
- You mean you walked all the way? Didn't you take a bus?
2. - I think I'd like to lie down for a while. (feel/well)
- Oh, dear. _____
3. - I'm looking forward to getting the photos you've sent. (arrive/yet)
- I sent them weeks ago. _____
4. - I saw Rita, but she walked straight past me (say 'hello')
- Without speaking to you? _____
5. - I never sit by the pool. I hate water. (swim)
- Really? _____

Exercise 10. Put in yes or no:

1. Didn't Mike stop and give you a lift? - _____, he didn't, but maybe he didn't see me.
2. Aren't you tired after working all day? - _____, I feel fine.
3. Didn't you write the number down? - _____, but I've lost the piece of paper.
4. Haven't you got an umbrella? - _____, it's here in my bag.
5. Couldn't you get in to the opera? - _____, we didn't have the tickets.

Question tags (disjunctive questions)

Comment	Question
It's a lovely day, isn't it? 🐼	You haven't heard a forecast, haven't you? 🦋
<ul style="list-style-type: none"> • <i>Is – isn't</i> • <i>Am – aren't</i> • <i>Are – aren't</i> • <i>Can – can't</i> • <i>Could – couldn't</i> • <i>Was – wasn't</i> • <i>Were – weren't</i> • <i>Must – mustn't</i> • <i>Should – shouldn't</i> • <i>Shall – shan't</i> • <i>Will – won't</i> • <i>Would – wouldn't</i> • <i>Has (done) (Present Perf.) – hasn't</i> • <i>Have (done) (Present Perf.) – haven't</i> • <i>Had (done) (Past Perf.) – hadn't</i> • <i>Like (V1) – don't</i> • <i>Likes (V1+s) – doesn't</i> • <i>Liked (Past S.) – didn't</i> • <i>Came (Past S.) – didn't</i> 	<ul style="list-style-type: none"> <i>Bob is reading, isn't he?</i> <i>I am right, aren't I?</i> <i>They are nice, aren't they?</i> <i>Mary can dance, can't she?</i> <i>Kevin could play, couldn't he?</i> <i>Nancy was at school, wasn't she?</i> <i>Mary and Tom were the best, weren't they?</i> <i>We must do it, mustn't we?</i> <i>Paul should buy it, shouldn't he?</i> <i>We shall win, shan't we?</i> <i>They will come, won't they?</i> <i>They would like to..., wouldn't they?</i> <i>John has found it, hasn't he?</i> <i>Children have slept, haven't they?</i> <i>We had left..., hadn't we?</i> <i>You like apples, don't you?</i> <i>Fred likes football, doesn't he?</i> <i>She liked reading, didn't she?</i> <i>They came late, didn't they?</i>

<p><i>There is</i> a garden near your house, <i>isn't there?</i></p> <p>She <i>never</i> tells lies, <i>does</i> she? (<i>not</i>)</p> <p>Requests and suggestions: Wait a moment, <i>can/could</i> you?</p> <p>Imperatives: <i>Don't</i> make any noise, <i>will</i> you?</p> <p>After Let's: <i>Let's</i> sit in the garden, <i>shall</i> we?</p>	
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Exercise 11.**A. Add a positive tag to each sentence.**

1. Madagascar isn't in the Atlantic Ocean, ...? 2. Astronauts haven't landed on Mars, ...? 3. The climate won't get any worse, ...? 4. The Romans didn't sail to America, ...? 5. Chickens can't fly, ...? 6. The world's population isn't growing in all countries, ...? 7. The first settlers on the British Isles weren't the Romans, ...?

B. Add a negative tag to each sentence.

1. You were at the same school as Maria, ...? 2. This is the way to the station, ...? 3. They understand this problem, ...? 4. Helen is coming to the party, ...? 5. The bus took a long time, ...? 6. You've forgotten to buy the ticket, ...? 7. You know about cars, ...?

Exercise 12. Complete the conversation. Put in tags.

1. He seldom reads the newspaper,.....?
2. You are Indian,.....?
3. Peggy didn't use the pencil,.....?
4. Mary has answered the teacher's question,?
5. The boy is from Turkey,?
6. Sue wasn't listening,?
7. Andrew isn't sleeping,?
8. Tom and Maria will arrive at Heathrow,?
9. He's been to Texas,?
10. Dogs like meat,?
11. There are some apples left,?
12. Everybody was late,.....?
13. Let's go,.....?
14. Don't smoke,.....?
15. He never sings in the bathroom,?
16. He'll never know,.....?
17. I think, he's from India,.....?
18. Nobody saw them on Monday,?

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19. She is collecting stickers,.....?
20. We often watch TV in the afternoon,.....?
21. You have cleaned your bike,.....?
22. John and Max don't like Maths,.....?
23. Peter played handball yesterday,.....?
24. They are going home from school,.....?
25. Mary didn't do her homework last Monday,?
26. He could have bought a new car,?
27. Kevin will come tonight,?
28. I'm clever,.....?

Exercise 13. Read the text about earthquakes. Then complete the questions for each answer.

EARTHQUAKES

When an earthquake occurs, part of the Earth's surface moves. In fact, the surface of the Earth moves all the time. The tectonic plates which make up the surface press against each other very slowly. Over thousands of years, this movement creates great stress. In some places where the layers of rock are weak, this eventually causes a sudden movement – an earthquake. Thousands of earthquakes happen every day, but most are very small and cause no damage. A large Earthquake shakes buildings to the ground, or causes a tsunami wave. The effects are usually very serious. Severe earthquakes are common in southern Europe, and on 1 November 1755 a powerful earthquake hit the city of Lisbon in Portugal. Between 60,000 and 100,000 people died. After the earthquake a tsunami struck the city, and there was also a fire, which caused nearly total destruction. People as far away as Finland felt the shock, and the tsunami reached Barbados in the West Indies. Geologists now believe that the strength of the earthquake was as high as 9 on the Richter scale. This is the same strength as the Indian Ocean earthquake of 26 December 2004.

1. Part of the Earth's crust moves when an earthquake occurs.
What _____?
2. The movement of tectonic plates creates this stress.
What _____?
3. Thousands happen every day.
How many _____?
4. It shakes buildings or causes a tsunami wave.
What _____?
5. On 1 November 1755.
When _____?
6. Between 60,000 and 100,000
How many _____?
7. In Finland
In which distant country _____?
8. That the strength of the earthquake was as high as 9 on the Richter scale.
What _____?

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9. On 26 December 2004.

When _____?

10. 9 on the Richter scale

How strong _____?

Exercise 14. *Mrs Peterson is the manager of a large firm. Today, she's interviewing Miss Lamport for the position of Accountant Manager. Use question words from the list and the prompts below to ask and answer questions.*

where, how much, which/what, how many, why, when, how long, how

Example. Mrs Peterson: Where did you study?

Miss Lamport: I studied at Bristol University.

1. study? Bristol University
2. subject/study? Mathematics
3. course/last? Three years
4. companies/you/ work for? Two
5. you/hear/about this job? See/an advertisement in the newspaper
6. want/to work/here? Hear/good things about the company
7. you/expect/to be paid? About \$20 000 a year
8. you/be able to/start? Next month
9. drive/car? No
10. speak/foreign languages? Yes
11. use/ computer? Yes
12. enjoy doing in your spare time? Reading
13. work well under pressure? No
14. where/live? Linden Str, New York

Exercise 15. *Translate the sentences into English.*

1. Вони здивувалися?
2. Кому Джейн телефонувала?
3. Хто дзвонив Ганні?
4. Правда її сукня виглядає класно?
5. Хіба ви не чули дзвінка? Я дзвонив 4 рази.
6. Ми не зустрічалися раніше? Думаю, що так.
7. Хіба він не їздив до Канади?
8. Чому ти не закрив двері?
9. Ти знаєш, коли починається фільм?
10. Цікаво, чому Кейт пішла так рано?
11. Ти знаєш, чи бачив він тебе?
12. Полісмен запитує нас, куди ми йдемо?
13. Том хоче знати, о котрій годині закривається банк?
14. Він палить? Палив, але більше ні.

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15. Енн не дуже добре почувається сьогодні. Правда? Що ви говорите?
16. Том запізнюється, чи не так?
17. Сем повинен здати іспити, чи не так?
18. Вони сердилися, чи не так? (Увага !!! **were not they** але - **were they not**)
19. Ви не збираєтеся працювати сьогодні, так? Так, не збираюся.
20. Том не дуже добре виглядає, так? Так, він виглядає жахливо.

GRAMMAR REVISION

Exercise 16. Use any appropriate tense for the verbs in parentheses.

1. My grandfather (*fly, never*) _____ in an airplane, and he has no intention of ever doing so.
2. Jane isn't here yet. I (*wait*) _____ for her since noon, but she still (*arrive, not*) _____.
3. In all the world, there (*be*) _____ only 14 mountains that (*reach*) _____ above 8,000 meters (26,247 feet).
4. I have a long trip ahead of me tomorrow, so I think I'd better go to bed. But let me say good-bye now because I won't see you in the morning. I (*leave, already*) _____ by the time you (*get*) _____ up.
5. Right now we (*have*) _____ a heat wave. The temperature (*be*) _____ in the upper 90's for the last six days.
6. Last night I (*go*) _____ to a party. When I (*get*) _____ there, the room was full of people. Some of them (*dance*) _____ and others (*talk*) _____. One young woman (*stand*) _____ by herself. I (*meet, never*) _____ her, so I _____ (*introduce*) myself to her.
7. About three yesterday afternoon, Jessica (*lie*) _____ in bed reading a book. Suddenly she (*hear*) _____ loud noise and (*get*) _____ up to see what it was. She (*look*) _____ out the window. A truck (*back, just*) _____ into her new car!
8. Next month I have a week's vacation. I (*plan*) _____ to take a trip. First, I (*go*) _____ to Madison, Wisconsin, to visit my brother. After I (*leave*) _____ Madison, I (*go*) _____ to Chicago to see a friend who (*study*) _____ at a university there. She (*live*) _____ in Chicago for three years, so she (*know*) _____ her way around the city. She (*promise*) _____ to take me to many interesting places. I (*be, never*) _____ in Chicago, so I (*look*) _____ forward to going there.
9. Yesterday while I (*sit*) _____ in class, I (*get*) _____ the hiccups. The person who (*sit*) _____ next to me told me to hold my breath. I (*try*) _____ that, but it didn't work. The instructor (*lecture*) _____ and I didn't want to interrupt him, so I just sat there trying to hiccup quietly. Finally, after I (*hiccup*) _____ for almost five minutes, I (*raise*) _____ my hand and (*excuse*) _____ myself from the class to go get a drink of water.

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10. The weather has been terrible lately. It (*rain*)_____ off and on for two days, and the temperature (*drop*)_____ at least twenty degrees. It (*be*)_____ in the low 40's right now. Just three days ago, the sun (*shine*)_____ and the weather was pleasant. The weather certainly (*change*)_____ quickly here. I never know what to expect. Who knows? When I (*wake*)_____ up tomorrow morning, maybe it (*snow*)_____.
_____.

WRITING

You will find some advantages and some disadvantages of a network. Link them as in the example.

Example:

Linking some of the advantages and disadvantages of a network.

1. Although networks allow data to be shared, they permit viruses to spread quickly.
2. Users can share software on the server; however server failure means that no one can work.
3. Networks are more vulnerable to viruses; however it is easier to check for viruses.
4. Although maintenance is easier, networks require more expertise to maintain.
5. Networks are more complex to set up; however maintenance is easier.
6. Although access to the system can be controlled, networks are more vulnerable to viruses.
7. Hardware and software can be shared; however the whole network depends on the central server.

Disadvantages

1. Hardware and software can be shared.
2. Access to the system can be controlled.
3. Networks are more complex to set up.
4. Networks are more expensive to set up.
5. Maintenance is easier.
6. Networks are more vulnerable to viruses.
7. Users can communicate easily with each other.
8. It is easier to check for viruses.
9. The whole network depends on the central server.
10. It is easier to make backups.
11. Networks require more expertise to maintain.

Ways to minimize disadvantages of a network.

1. Employ well trained computing staff.
2. Use standard systems.
3. Try to negotiate bulk discounts.
4. Use thin clients instead of full computers.
5. Install an anti-virus program on the server.
6. Schedule frequent virus checks on the server.
7. Buy a good quality server.

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8. Buy as powerful a server as you can afford.
9. Purchase a server with hot-swappable components.
10. Install a RAID system on the server.
11. Have a good training scheme for computing personnel.

THE WORLD WIDE WEB

Vocabulary Bank Unit 12

Task 1. Read, write the translation and learn the basic vocabulary terms:

- | | |
|----------------------------|-------------------------------|
| 1. alter | 30. occasional |
| 2. amenable | 31. offensive speech |
| 3. boot destructive | 32. on the fly |
| 4. bulletin board | 33. opposed |
| 5. censorship advocates | 34. professional-looking site |
| 6. conferred | 35. punishable |
| 7. conversion routines | 36. rarely |
| 8. cyber censorship | 37. recruit |
| 9. detonator | 38. related |
| 10. devote | 39. replicate itself |
| 11. distribute | 40. request |
| 12. diverse | 41. retrieve |
| 13. erase | 42. rigorous |
| 14. explosion | 43. root directory |
| 15. facilitate | 44. search query |
| 16. foreign | 45. set off |
| 17. free speech supporters | 46. sophisticated tools |
| 18. from scratch | 47. sort out |
| 19. fulfil | 48. sovereign states |
| 20. heritage | 49. subdirectories |
| 21. high-energy physics | 50. to hinge |
| 22. hire | 51. to preserve |
| 23. household | 52. trace |
| 24. illegally copied | 53. trigger |
| 25. infector | 54. unlinked files |
| 26. irresponsible | 55. unsavoury material |
| 27. manually embedding | 56. unwanted program |
| 28. objectionable | 57. virus shields |
| 29. obscene | 58. write-protect tab |

TEXT 12 A. THE WORLD WIDE WEB

The World Wide Web began in 1989 as a project by high-energy physics researchers in Switzerland to distribute research Internet to fellow physicists. Since then, the Web has rapidly moved into the forefront of Internet technologies. More people use the Web on the Internet than all other technologies on the Net combined. To most of the general public, the Web is synonymous with the Internet itself and is, in fact, thought by many to have played the dominant role in moving the Internet from an academic research tool to a household word.

The Web is an abstract (imaginary) space of information. On the Web, you find documents, sounds, videos, and information. On the Web connections are hypertext links. The Web uses a writing technology called hypertext. A hypertext is a group of unlinked files. Hypertext is a key concept for understanding today's Web, but the idea of hypertext originated much earlier than the Web or even the Internet. Two of the most important elements of the Web-Hypertext Transfer Protocol (HTTP) and Hypertext Markup Language (HTML) – contain “hypertext” in their names.

HTTP is a protocol that works with TCP/IP (Transmission Control Protocol/Internet Protocol) to get Web resources to your desktop. A web resource can be defined as any chunk of data that has a URL, such as an HTML document, a graphic, or a sound file. HTTP includes commands called “methods” that help your browser communicate with web servers. GET is the most frequently used HTTP method. The GET method is typically used to retrieve the text and graphics files necessary for displaying a Web page. This method can also be used to pass a search query to a file server. HTTP transports your browser's requests for a Web resource to a Web server. Next, it transports the Web server's response back to your browser.

HTML is a set of specifications for creating HTML documents that a browser can display as a Web page. HTML is called a markup language because authors mark up their documents by inserting special instructions, called HTML tags that specify how the document should appear when displayed on a computer screen or printed.

On today's Web, many aspects of hypertext have become a reality. A typical Web page is based on a document stored in a file and identified by a unique address called a URL (Uniform Resource Locator). To access any one of these documents, you can type its URL. You can also click an underline word or phrase called a hypertext link (or simply a “link”) to access related Web pages.

HTTP and HTML are two of the major ingredients that define the Web. If you add URLs, browsers, and Web servers to this recipe, you'll have a pretty complete menu of the basic technologies that make the Web work.

A web server stores data from Web pages that form a Web site. One way to store data for a Web page is as a file called an HTML document – a plain text, document with embedded HTML tags. Some of these tags specify how the document is to be displayed when viewed in a browser. Other tags contain links to related document, graphics, sound, and video files that are stored on Web servers. As an alternative to HTML documents, Web servers can store Web page data in other types of files, such as databases. Data from product databases, college course schedules, and music catalogues can be assembled into HTML format “on the fly” in response to Web requests.

To surf the Web, you use Web client software called a browser. When you type a URL into the browser's Address box, you are requesting HTML data for a specific Web page. Your browser creates a request for the data by using the HTTP “GET” command.

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A Web server is configured to include HTTP software. This software is always running when the server is “up” and ready to fulfill requests. One of the server’s ports is dedicated to listening for HTTP requests. When a request arrives, the server software analyzes it and takes whatever action is necessary to fulfill it.

The computer that runs Web software might have other software running on it as well. For example, a computer might operate as a Web server, as an e-mail server, and as an FTP (File Transfer Protocol) server all at the same time! To efficiently handle these diverse duties, a computer devotes one port to HTTP requests, one port to handling e-mail, and another port to FTP requests.

A browser is a software program that on your computer and helps you access Web pages. Technically, a browser is the client half of the client/server software that facilitates communication between a personal computer and a Web server. The browser is installed on your computer, and Web server software is installed on servers connected to the Internet.

Your browser plays two key roles. First, it uses HTTP to send messages to a Web server – usually a request for a specific HTML document from Web server, your browser interprets the HTML tags to display requested Web page. Today’s popular browsers are Internet Explorer, Mozilla Firefox, Opera, Google Chrome.

A Web site is a group of related Web pages. The Web site is the master address, and the individual Web pages are like subdirectories to that root directory. Many businesses are creating Web sites for their customers to use. These sites may include price list, information about products, and comparisons of product features with those of competing products. Many sites even allow customers to order products over the Web. Because your site is representing you on the Web, you will want the site to look impressive. For a professional-looking site, you may want to hire a firm that creates Web sites. Such firms employ HTML experts as well as graphic designers and marketing specialists.

Task 2. Match the meaning of the following English words and their Ukrainian equivalents.

1. Hypertext Markup Language (HTML)	a. протокол передачі файлів;
2. Uniform Resource Locator (URL)	b. браузер, програма перегляду сайтів (Web);
3. Web-Hypertext Transfer Protocol (HTTP)	c. “подорож” по сайтах (серфінг);
4. hypertext link	d. Web-вузол (сайт-розм.) сторінка, що відображається в браузері;
5. “surfing” (the Internet)	e. уніфікована адреса інформаційного ресурсу;
6. browser	f. мова гіпертекстової розмітки;
7. File Transfer Protocol (FTP)	g. сервер електронної пошти;
8. E-mail server	h. “тег” - елемент коду розмітки документа;
9. Web site	i. протокол передачі гіпертексту;
10. HTML tags	j. гіпертекстове посилання;

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Task 3. Choose the ending for each sentence from the two versions given.

1. One way to store data for a web page is
 - a) a file called an HTML document.
 - b) a unique address called a URL.
2. Some of these tags specify how the document is
 - a) to be displayed when viewed in a browser.
 - b) to be identified by a unique address.
3. Business sites may include
 - a) price list, information about products and comparisons of product features with those of competing products.
 - b) related document, graphics, sound and video files.
4. HTTP is
 - a) a protocol that works with TCP/IP to get Web resources to your desktop.
 - b) a set of specifications for creating HTML documents that a browser can display as a Web page.
5. Your browser creates a request for the data by
 - a) using the HTTP "GET" command.
 - b) using Web pages.
6. The Get method can be used to
 - a) pass a search query to a file server.
 - b) listen for HTTP requests.

Task 4. Vocabulary practice. Which word does not belong to the group?

- a) documents, specifications, protocols, commands;
- b) file, database, data, directory;
- c) screen, display, desktop, browser;
- d) connections, links, addresses, sites;
- e) query, request, response, port.

Task 5. Complete the sentences using one of the given endings.

1. The WWW began as	a) Web page data in other types of files, such as databases.
2. HTTP is a protocol that works with	b) on your computer and helps you access Web pages.
3. HTML is called a markup language because	c) a document stored in a file and identified by a unique address called URL.
4. A typical Web page is based on	d) authors mark up their documents by inserting special instructions, called HTML tags.
5. A browser is a software program that runs	e) TCP/IP to get Web resources to your desktop.
6. As an alternative to HTML documents, Web server can store	f) a project by high-energy physics researches in Switzerland.

Task 6. Transform the given sentences using the word in brackets without any change in the meaning.

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1) When you type a ... into the browser's address box, you are requesting HTML data from a specific Web page.

- a) HTML b) URL c) HTTP d) TCP

2) A ... is a software program that runs on your computer and helps you access Web pages.

- a) Web server b) e-mail server c) FTP server d) browser

3) Your browser creates a ... for the data by using the HTTP "GET" command.

- a) response b) request c) message d) instruction

4) Technically, a browser is the client half of the client/server software that facilitates communication between a personal computer and a... .

- a) Web server b) e-mail server c) FTP server d) web site

5) HTML is a set of specifications for creating ... that a browser can display as a Web page.

- a) HTML documents b) graphics c) sound d) video files

Task 7. Fill in the gaps with appropriate words.

Many software tools are available today that make it easy to create Web pages. A Web page author can use a ____ editor, such as Notepad, to create Web pages "from scratch" by manually embedding HTML tags within the text of a document. It is also possible to use the HTML conversion routines included with many standard software applications. Another route is to use specialized Web ____ software, such as Microsoft FrontPage.

An HTML document is divided into two sections. The ____ section contains information used to define global properties for the document. The ____ section contains the text you want the browser to display, the HTML tags that format the text, and a variety of links. In addition to embedding HTML tags within the text, a Web page can be formatted with a ____ style sheet, which allows Web page designers to change formats throughout an HTML document without modifying individual HTML tags. To control the position of text and graphics on a Web page, many authors place these elements in the cells of a Web page ____.

Task 8. Read the text and find the answers to the questions.

What is a computer virus?

How does a virus work?

TEXT 12 B. COMPUTER VIRUSES.HOW COMPUTER VIRUSES WORK

A computer virus - an unwanted program that has entered your system without you knowing about it - has two parts, which I'll call the infector and the detonator. They have two very different jobs. One of the features of a computer virus that separates it from other kinds of computer program is that it replicates itself, so that it can spread (via flash cards transported from computer to computer, or networks) to other computers.

After the infector has copied the virus elsewhere, the detonator performs the virus's main work. Generally, that work is either damaging data on your disks, altering what you see on your computer display, or doing something else that interferes with the normal use of your computer.

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The sources seem to be service people, pirated games, putting flash cards in publicly available PCs without write-protect tabs, commercial software (rarely), and software distributed over computer bulletin board systems (also quite rarely).

Many viruses have spread through pirated – illegally copied or broken – games. This is easy to avoid. Pay for your games, fair and square.

If you see a shared PC or a PC that has public access, such as one in a college PC lab or library, be very careful about putting flash cards into that PC's drives without a write-protect tab. Carry a virus-checking program and scan the PC before letting it write data onto floppies.

Despite the low incidence of actual viruses, it can't hurt to run a virus-checking program now and then. There are actually two kinds of antivirus programs: virus shields, which detect viruses as they are infecting your PC, and virus scanners which detect viruses once they've infected you.

Viruses are something to worry about, but not a lot. A little common sense and the occasional virus-scan will keep you virus-free.

Task 9. Match the words and definitions listed below

- | | |
|------------------------|---|
| 1) a detonator | a) a protective device |
| 2) an infector | b) to remove all traces of something |
| 3) to boot destructive | c) a device used to set off an explosion or other process |
| 4) to trigger | d) to discover or recognize that something is present |
| 5) to erase | e) to set a process in motion |
| 6) pirated | f) something which transmits a disease or virus |
| 7) a shield | g) stolen, obtained without the owner's consent |
| 8) to detect | h) to load the operating system into memory |

Task 10. Decide whether the following statements are true [T] or false [F] in relation to the information in the text. If you feel a statement is false, change it to make it true

1. Viruses cannot be spread through a computer network, only via flash cards transported from computer to computer. []
2. The virus will spread as soon as you put the infected flashcard in your PC. []
3. The infector works by interfering in some way with the normal use of your computer. []
4. Most viruses spread through pirated games. []
5. You should run an antivirus program every time you use your computer. []
6. There are not very many viruses in circulation. []
7. Virus shields are more effective than virus scanners. []

Task 11. Translate the following sentences from Ukrainian into English. Mind grammar

1. Комп'ютерні віруси, як і справжні біологічні віруси, є переносниками елементарної інформації, яка при вбудовуванні (to embed) в логічну структуру програми змушує її виконувати шкідливі дії, або просто уповільнює її роботу.

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2. Лікування комп'ютерних вірусів - досить непросте завдання, адже далеко не у всіх випадках програму можна вилікувати, не пошкодивши її.
3. Кожен рік збільшення числа комп'ютерних вірусів змушує виробників антивірусних програм випускати доповнення для вірусних баз, а також оновлення програм-ревізорів.
4. Для профілактики (preventive measures) зараження вірусом рекомендується не запускати на комп'ютері програми, джерело яких ненадійний або невідомий, а також проводити регулярне сканування жорсткого диска і пам'яті.
5. Активізація багатьох вірусів відбувається в будь-які певні дні - в п'ятницю 13-го, в свята, в інші пам'ятні дати або навіть в день народження автора вірусу.

SPEAKING

Critical thinking. Read the article and express your opinion on the problem.

CENSORSHIP ON THE WEB

The Internet offers instant access to information across national and cultural borders, but along with helpful information the Internet hosts a disturbing amount of unsavory material. Militias and hate groups use Web sites to recruit new members and spread their views. International terrorists use Web sites as recruiting tools and for boasting about suicide bombings. Criminals, anarchists and dissenters post guidebooks and tips on how to do all kinds of illegal activities, from making suitcase bombs to spreading viruses.

Some advocate cyber censorship to irresponsible Web sites, blogs and discussion groups. Cyber censorship typically means blocking access to Web sites, but it can also mean closing sites and removing them from host servers. Censorship advocates are opposed by free speech supporters. The controversy over censorship is not new. In most cases words are acceptable, whereas actions can be punishable. But in some cases, words are punishable, too.

A second censorship guideline hinges on local standards of morality. Local communities can apply their own standards to determine whether material is obscene.

However, local standards are difficult to sort out on the Internet where a Web surfer in Tennessee can easily access Web sites, bulletin boards and chat groups that originate from anywhere in the world.

The U. S. Supreme Court supports the concepts of cyber zones that limit net access to certain materials. It is possible to construct barriers in cyberspace and use them to screen for identity, making cyberspace more like the physical world and more amenable to zoning laws. As an example, AOL is trying to develop a family - friendly Internet portal by enforcing policies against offensive speech.

But in some countries cyber citizens have no choice but to use a government-controlled ISP. In many countries, free speech is not a basic right conferred to all citizens. Many dictatorial regimes want their citizens to receive news from the outside world only after government censor has screened it. Officials in more than 20 countries use sophisticated tools to block Web sites, filter e-mail, and censor discussion groups.

China has some of the most rigorous Internet censorship in the world. The "Great Firewall of China" as it is sometimes called, blocks Internet content by preventing IP addresses of objectionable sites from being routed through its gateways into China. In Iran, government censors monitor political and news Web sites. In Saudi Arabia if you tried to open "Rolling Stone" magazine's Web site, you would

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find that access has been denied. The Saudi government claims it censors the Internet to preserve culture and heritage.

That argument in many ways reflects the concept of cyber zones that conform to local standards of morality. Even free-speech activists seem to agree. They say: "We do think that information should be free, but we do need to find a balance for respect for sovereign states to preserve their own culture."

Despite such cultural sensitivity, technology giants, such as Microsoft, Yahoo! and Cisco Systems have been criticized for providing foreign government with tools for blocking culturally objectionable sites.

What do you think?

1. Should government be allowed to block access to Web sites based on local religions, politics and customs?
2. Do you believe that a privately held ISP like AOL has the right to censor the data posted on Web sites it hosts?
3. Should companies like Microsoft, Yahoo! and Cisco Systems provide blocking technology to foreign government?

GRAMMAR REVISION

Exercise 1. Put the verbs in brackets into one of the present tense form.

1. Look! She _____ (wear) the same shoes as me.
2. Vegetarians are people who _____ (not eat) meat.
3. Someone _____ (take) my bicycle.
4. I often _____ (see) him but I never _____ (speak) to him.
5. I _____ (buy) a new carpet. Come and look at it.
6. It _____ (not rain) here since March.
7. My friends _____ (like) meat but _____ (not like) fish.
8. Where is Tom? - He _____ (lie) under the car.
9. She's a school teacher. She _____ (teach) maths.
10. How long you _____ (live) here?
11. How often you _____ (fall) in love?
12. The postman usually _____ (come) at 9 in the morning.
13. Hey! Somebody _____ (drink) my coffee! My cup was full.
14. I _____ (sit) here in the park for an hour, and I _____ (meet) three friends of mine.
15. I already _____ (break) two plates. Shall I go on washing up?
16. I have a car but I _____ (not use) it very often.
17. They _____ (talk) so loudly that we can't really hear your words.
18. Phil is happy. He _____ (find) a new job.
19. Alice never _____ (go) to work by bus.
20. I _____ (lose) my key. I must look for it in my bag.

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Exercise 2. Put the verbs in brackets into one of the past tense form.

1. When I arrived at his house he still _____ (sleep).
2. A few months ago they _____ (begin) to build a new block of flats in this street.
3. They _____ (walk) in the park for an hour when it began to rain.
4. When the door-bell _____ (ring) he _____ (stand up) and _____ (go) to the door.
5. The fire still _____ (burn) at 6 o'clock this morning.
6. Last summer I _____ (visit) Riga. I _____ (enjoy) my trip very much.
7. She cut her finger while she _____ (cut) the bread and butter.
8. He _____ (come) home by 6 o'clock yesterday.
9. When _____ she _____ (speak) to him? - She _____ (speak) to him last week.
10. The car already _____ (go) when I _____ (look) into the street.
11. I _____ (meet) him when he _____ (cross) the street.
12. Last term Ann _____ (make) good progress in her English.
13. When I _____ (get) out, the sun _____ (shine).
14. Ann _____ (buy) herself a new dress yesterday. She _____ (pay) 3 pounds for it.
15. They _____ (eat) everything by the time I _____ (arrive) at the party.
16. Mary _____ (work) in the shop for 5 years before she became a manager.
17. Our grandmother _____ (cook) dinner from twelve till two yesterday.
18. They _____ (walk) in the park for an hour when it began to rain.
19. This time yesterday I _____ (lie) on the beach.
20. They _____ (reach) the river by sunset.

Exercise 3. Put the verbs in brackets into one of the future tense form.

1. This time next month I _____ (bath) in the Baltic sea.
2. By the 8th of April my mother _____ (work) at school for twenty years.
3. I'm tired. I think, I _____ (go) to bed.
4. I _____ (work) in the library all day tomorrow.
5. At four o'clock on Tuesday afternoon we _____ (fly) over Paris.
6. They _____ (be) free in some minutes.
7. This time next week they _____ (go) to the Crimea by train.
8. She _____ (change) her books in the library tomorrow.
9. They _____ (build) the road by the end of the year.
10. Ring me up at 4 o'clock. I _____ (have) dinner by this time and we _____ (go) to the concert.
11. - It's too late to telephone Tom now. - OK. We _____ (telephone) him in the morning.
12. When you come in the evening we _____ (pack) our things.
13. I promise, I _____ (meet) you at the station.
14. We'll come at 5 o'clock. - OK, I _____ (wait) for you.
15. It _____ (stop) raining soon.
16. Susan _____ (type) from 6 o'clock until 8 o'clock this evening.
17. Young Billy is growing up. By this time next year he _____ (begin) school.
18. Don't phone me tomorrow morning. I _____ (work) on my report.

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19. We _____ (fly) for twelve hours by the time the plane lands.
20. By this summer we _____ (read) all the stories in the book.

Exercise 4. Choose the variant.

1. Let's _____ before it _____ raining.
a) go out, starts c) go out, 'll start
b) to go out, starts d) going out, starts
2. Before the end of my holiday, I'm afraid, I _____ all my money.
a) spend c) 'll have spent
b) spent d) 'll spend
3. Our house is similar to _____.
a) them c) their
b) they d) theirs
4. He is one of _____ men in the world.
a) richer c) the richest
b) richest d) a rich
5. _____ more I got to know him, _____ more I liked him.
a) the, the c) a, a
b) -, - d) a, the
6. Nobody has seen Mary for days. Who was the last _____ her?
a) seeing c) see
b) having seen d) to see
7. It's not warm _____ to sit in the garden.
a) enough c) well
b) so d) too
8. What a boring film! It's the most boring film I _____.
a) have never seen c) had ever seen
b) saw d) 've ever seen
9. We didn't have any money but Nick had _____.
a) few c) a little
b) a few d) little
10. They tried to study but they just couldn't concentrate
a) them c) —
b) theirs d) themselves
11. Three thousands dollars _____ stolen in the robbery.
a) was c) is
b) were d) are
12. Unfortunately _____ was very shocking.
a) a news c) new
b) news d) the news
13. Do you often go to a cinema? No, it's a long time since I _____ there.
a) went c) go
b) am going d) have gone
14. He _____ to bed early but now he goes out every evening.

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- a) used to go c) used going
b) didn't use to go d) used to going
15. You won't pass the driving test unless you _____ more.
a) '11 practise c) don't practise
b) not practise d) practise
16. Jack is in _____ hospital now and his sister went to _____ hospital to visit him.
a) —, the c) the, the
b) -, - d) -, a
17. I realized that my car _____ away by the police.
a) was taken b) has been taken
c) had been taken d) will be taken
18. "I've got few friends." " _____."
a) Neither have I c) So do I
b) Neither do I d) So have I
19. In the afternoon I do some work for the big company _____ my computer.
a) having used c) using
b) will using d) to use

Exercise 5. Choose the right variant.

- 1 He'll send her a postcard when he _____ on holiday.
a) was c) '11 be
b) were d) is
2. When you see her she _____ a red hat.
a) '11 be wearing c) '11 wear
b) wears d) wear
3. I was astonished since I _____ so many people before.
a) didn't see c) have seen
b) saw d) hadn't seen
4. She is _____ intelligent but _____ lazy.
a) quite, rather c) rather, quite
b) quite, quite d) rather, rather
5. We stopped at _____ pretty village on _____ way to _____ London.
a) the, -, the c) a, the —
b) a, a, - d) the, a, -
6. Who was the last person _____ the office last night?
a) to leave c) left
b) has left d) leaving
7. That picture is _____ heavy to hang on the wall.
a) enough c) such
b) so d) too
8. We _____ a lot of famous people in the last few weeks.
a) have met c) had met
b) met d) meet
9. I had never expected to be offered the job, I was really _____ when I was offered it.

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- a) amazing c) more amazing
b) amazed d) less amazed
10. You are always nervous and excited. Why don't you relax _____ more?
a) you c) yourself
b) yours d) —
11. We went on holiday with some friends of _____.
a) ours c) us
b) our d) him
12. Could you give me a lift? Ten kilometres _____ too far for me to walk.
a) are c) is
b) not d) aren't
13. My secretary was late for work because she _____ in the traffic jam.
a) got stuck c) had got stuck
b) has got stuck d) was getting stuck
14. I know he doesn't go out very often these days but _____ he _____ out a lot?
a) did, use to go c) was, used to go
b) does, use to go d) is, used to go
15. If I knew where they were, I _____ you there now.
a) 'll take c) would have taken
b) would take d) took
16. _____ Dnieper is _____ longest river in _____ Ukraine.
a) the, the, — c) the, a, —
b) -, the, - d) -, a, -
17. You can't get into the park after 10 p.m. because the gates _____ at 10 p.m. every night.
a) is close c) close
b) are closed d) are closing
18. I much prefer _____ TV to _____ books.
a) watching, reading c) watch, read
b) to watch, to read d) to watch, reading
19. "I didn't know that Ann was in hospital." "_____."
a) So did I c) Neither did I
b) So was she d) Neither I did
20. It would be difficult for me _____ the work by the weekend.
a) to have finished c) finishing
b) to finish d) finish

Exercise 6. Choose the right variant.

1. I don't recall having seen you before. Are you sure we (*meet*)?
2. Sally earns a lot of money; her new job is much (*good*) paid than the old one.
3. We went to (*a, the, -*) Gladiator to see a new film because we (*read*) very good reviews. Next Saturday we (*go*) to Hyde Park, if it (*not, rain*).
4. I watched a documentary on TV last night. It was all about the problems (*threatening, threatened*) the environment. I (*shock*) to find out how little I (*know*) about globe warming or acid rains.

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5. Nature delicately (*balance*) and the extinction of one species (*may, must, should*) have a serious effect on (*other, others, the others*).
6. It is the fault of mankind that so many species (*endanger*), so it's our responsibility to protect those while we still can.
7. (*Famous*) sporting event in the world, the Olympic Games, began in Greece in 776 BC.
8. Medieval sports were not as organized as events in ancient times: at fairs or festivals men (*would, were used to*) lift heavy stones and women (*would, be used to*) run races.
9. I'm sure he is not aware (*at, in, of*) the harm he (*do*) for us.
10. The old lady (*could, was able to, must*) identify the robber who (*attack*) her the previous day.
11. I'm sure that in this time of technology advances, we (*find*) already some way to solve the world's ecological problems.
12. Many people feel (*happy*) when they are with friends than when they are on their own.
13. Certain sports teams (*support*) by fans all over the world and individual athletes (see) as celebrities.
14. During the 18th and 19th centuries national organizations were formed which made sure that the rules (*follow*) and arranged regular sport competitions.
15. When I was a child, I (*used to, was used to*) love my dad's stories about Africa. He (*work*) there for many years before I was born.
16. This dish (*make*) (*from, at, on*) a recipe given to me by my grandfather who was (*a, an, the, -*) excellent cook.
17. My idea of an ideal holiday (*change*) a lot in the past few years. Nowadays, I'd much rather go away in spring when (*most, most of, more*) places (*not, fill*) with tourists.
18. I have just spoken to three women, (*neither, none, either*) of (*whom, who, them*) speaks Spanish.
19. We (*invite*) some friends for dinner tonight. Would you like to join (*to, at, in, -*) us?
20. She has been waiting for him for ten years already. If she (*not, love*) him, she (*not, wait*) so long.

WRITING

PROJECTS. PERFORM THE PROJECT GIVEN

Many companies have a Web site that provides information on their products and services. Use a search engine to locate a company in your career field. Suppose you are a recruiter for that company and you'll be attending a series of college career fairs. Create a one-page information flyer that you can hand out to prospective recruits. It should include: company's name, location(s) URL; a brief description of the company's mission, products, and services; a description of typical working conditions; instructions on how to submit a resume electronically.

PROGRAMMING LANGUAGES

Answer the questions. Then discuss in pairs.

- 1) How long have you been using the computer?
- 2) Can you program on your computer? What do you need to make programs?
- 3) What programming languages have you already known? Which ones are you studying at the moment?

Vocabulary Bank Unit 13

Task 1. Read, write the translation and learn the basic vocabulary terms:

- | | |
|-------------------------|---------------------------------|
| 1. abstraction | 22. executable file |
| 2. addition | 23. execution |
| 3. arbitrary text files | 24. extension language |
| 4. assembly code | 25. facilitate |
| 5. assembly languages | 26. full-fledged application |
| 6. asset management | 27. garbage |
| 7. binary values | 28. heir |
| 8. built-in | 29. high-level languages |
| 9. compiler | 30. human-like words |
| 10. concerned | 31. implement |
| 11. concurrency | 32. in order to run |
| 12. convenient | 33. inherent cross-platform |
| 13. debugged | 34. interpreter |
| 14. deficiency | 35. low-level languages |
| 15. designate | 36. mnemonic |
| 16. discretion | 37. natural languages |
| 17. ease-to-use | 38. notation |
| 18. encapsulation | 39. object code |
| 19. encourage | 40. object-oriented programming |
| 20. establish | 41. permanently |
| 21. evolve | 42. problem-oriented languages |

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- | | |
|--------------------------|------------------|
| 43. procedural languages | 49. standpoint |
| 44. query languages | 50. statement |
| 45. realm | 51. to hide |
| 46. robust | 52. to interface |
| 47. source code | 53. to join |
| 48. specificity | 54. usability |

TEXT 13A. TYPES OF PROGRAMMING LANGUAGES

Programming languages are classified as first-, second-, third-, fourth-, or fifth- generation languages, according to when they were developed and how sophisticated they are. The first- and second-generation languages are very difficult to use and are considered low-level languages. The others are sometimes called high-level languages.

Machine Languages

Machine languages are the first generation of programming languages; these languages consist of instructions the computer is actually built to execute. Since at the hardware level computers understand only binary notation (1s and 0s), programming with a machine language requires writing out the binary values of the program instructions. A simple machine-language command might be 10101001 10101010 1011101011010100." Machine languages vary from one model of computer to another, as each model of processor is built differently. Machine languages are difficult to understand and use, so they are rarely used directly by programmers today. Since the computer understands only machine language, however, any program written in any other language must be translated into machine language in order to run.

Assembly Languages

Assembly languages are the second-generation programming languages and first to use alphanumeric symbols to write code. The creation of assembly languages depended on the development, using machine language, of an assembler. An assembler is a program that translates the assembly code into machine language. It is necessary to have one assembler for each kind of assembly language and for each kind of computer used.

Assembly languages are the simplest improvement over machine language; their commands are simple mnemonic codes that stand for the binary instructions of machine code. When programmers need to deal with the computer directly, they use assembly language; because it is so close to the hardware level, it is possible to write very efficient programs in assembly language. That same closeness to the hardware level, however is what makes assembly language difficult to use for large programming projects. Therefore, most assembly programming today is used for writing small modules that can be included in larger programs written in more convenient languages.

Procedural Languages

Procedural languages are the third-generation languages. They are also called high-level languages because they represent a higher level of abstraction from machine code than do assembly languages. Procedural languages employ more human-like words, and each has its own set of syntax rules. They are also more efficient, allowing the programmer to express with one statement what would take several commands in machine language. They are called procedural languages because they allow the

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programmer to create procedures that implement structured programming. Procedural languages are by far the most widely used programming languages.

The development of procedural languages was started by the invention of translation programs that could convert the syntax of the high-level language to machine code that the computer could execute. These translators are compilers and interpreters.

A compiler converts an entire program written in a high-level language to machine language, storing it in what is called executable file, to be run later at the user's discretion. The original code is then called the source code, and the machine-language code is called the object code.

An interpreter reads each high-level program statement, then translates it to machine language and instructs the computer to execute the statement immediately. It creates no object code and no executable file; from the programmer's or user's standpoint, the computer executes the original code. This method of execution gives the programmer more immediate control of the machine and lends itself to an interactive method of programming and refining code and testing it immediately. The interpreter program does not permanently change the code, allowing users or programmers to make additions and other modifications to the program more easily. However, interpreting the code takes more processing than running a compiled program, so interpreted programs generally run slower than compiled programs.

Some of the most frequently used procedural languages include the following: BASIC, PASCAL.

Problem -Oriented Languages

Fourth -generation languages, the problem-oriented languages, are a mixed bag of strategies to make programming easier. They were created to solve specific user and programming problems rather than to achieve the broad general usability of procedural languages. This group of languages includes object-oriented languages, application generators, authoring systems, HyperTalk, and query languages.

Object-Oriented Programming.

Object-oriented programming (OOP) takes a different approach to creating applications. Traditional programming treats data and instructions as separate items with the instructions controlling the data; the instructions are active controls on passive data. In object-oriented programming, an object is created by joining data and instructions in a process known as encapsulation. Once an object is made and debugged, it will work. Objects can then be linked together with messages (calls to the object to implement its instructions on its data) to form full-fledged applications.

Query languages.

Query languages are used specifically within the realm of databases. These languages are designed to instruct the computer to retrieve and manipulate database information and can be used to develop specific applications based on databases, such as database publishing and project management.

Natural languages

The fifth and final generation of programming languages does not involve the generation of any code. These natural languages use the normal grammar of the spoken language to create programs. Some natural programming languages include Intellect, Broker, and Explorer. Although they don't yet meet, their inventors' ideal, they are showing promise, and continued advances in this area may someday radically change the way we use computers and how we create programs.

Task 2. Answer the questions to the text.

1. How are programming languages classified? 2. What are low-level languages? 3. What are high-level languages? 4. What does programming with a machine language require? 5. What are specific features of the second-generation programming languages? 6. Why are procedural languages called high

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level languages? 7. What do compilers and interpreters do? 8. Can you name any procedural language? 9. What languages are included in the group of the fourth-generation languages? 10. Is it possible to use the spoken language to create programs? 11. When are query languages used? 12. What languages do not involve the generation of any code?

Task 3. Give the equivalents for the terms.

1. авторська система; 2. виконуваний файл; 3. процедурні мови; 4. буквено-цифрові символи; 5. програма асемблер; 6. структурне програмування; 7. набір синтаксичних правил; 8. прикладна програма; 9. мова запитів; 10. двійковий код; 11. вихідна програма, програма на мові високого рівня; 12. мову програмування сценаріїв

Task 4. Mark the following as True or False.

1. The third-generation programming languages are machine languages that use binary codes of ones and zeroes to control the activities of the computer. 2. Procedural language is a type of a high-level programming language that requires each computer instruction to be listed and carried out in sequence. 3. The second-generation programming languages require less specificity in terms of the order in which the computer instructions are carried out. They are referred to as nonprocedural languages. 4. Machine languages, assembly languages are known as low-level languages because they interact directly with the computer's hardware, using machine-oriented codes rather than English-like commands. 5. High-level programming languages use an English like approach that is easier to use than machine or assembly languages. 6. Programs created with these languages can be used on more than one type of computer with little modification.

Task 5. Fill in the blanks with the words from the box.

to provide, to operate, to guide, to initiate, to evolve, to communicate, to know, to establish, to tell, to type

A programming language is, in many ways much like the languages we use ... (1) with each other. A programming language ... (2) a special set of rules and a vocabulary that have to do with a computer's operation. Before communication with a computer can be ... (3), the rules and specialised vocabulary of the programming language must ... (4) to both the computer programmer and the computer itself. A programming language has words, symbols and rules of grammar (known as the syntax of the language). A computer programmer, ... (5) within the structure of these rules, develops an instruction ... (6) the computer's operation. The resulting set of instructions is the computer program. Often these instructions ... (7) the computer what to do when the user of the program ... (8) some kind of action (when, for example, the user ... (9) in characters from the computer's keyboard). Over the years, computer programming methods ... (10) through the development of successive 'generations' of programming languages, with each new generation bringing new functionality and ease-to-use.

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Task 6. Translate the sentences into Ukrainian.

1. It is necessary that machine languages should be designed for a specific type of computer processor. 2. The programmer insisted that each instruction of the source program should be translated to a machine language. 3. I wish the computer program based on these fourth-generation methods required fewer statements. 4. It is time a computer user could write statements that are very much like a normal human language. 5. If I used this high-level programming language, I would develop the report based on the information stored in the computer. 6. If the programmer should use this natural language approach, tell him he doesn't have to learn special rules of statement entry. 7. If he had used a database query language, the requests would have been phrased as normal human-language statements. 8. If it were not for your help, I shouldn't be able to carry out the task in time. 9. But for the slow execution of the program, this instruction-by-instruction method would have become appropriate to find errors and to fix them immediately. 10. If PC users needed application programs created for farmers and mechanics, for scientists and teachers, they would buy commercial software to meet their individual needs. 11. I wish I had known FORTRAN to apply it for scientific application. 12. Had I used the Internet, I would have got the required information earlier.

Task 7. Translate the following sentences into English.

1. Існує безліч мов програмування. 2. Високорівневі мови програмування в чомусь нагадують людські мови. 3. Вони розроблені так, щоб людині якомога легше було створювати на них програми і читати їх. 4. Інструкції високорівневого мови програмування набагато складніше ніж ті прості інструкції, які може виконувати центральний процесор комп'ютера. 5. Мови, близькі за структурою до мови інструкцій процесора, називаються мовами низького рівня. 6. Вони орієнтовані на конкретні комп'ютери, тому набори їх інструкцій для різних комп'ютерів різні. 7. Хоча мова асемблера дуже близький до мови, яку розуміє комп'ютер, створені на ньому програми перед виконанням вимагають деякого простого перетворення. 8. Щоб комп'ютер міг виконати асемблерну інструкцію, її потрібно перекласти в послідовність нулів і одиниць. 9. Інструкції мови асемблера та їх еквіваленти, що складаються з нулів і одиниць, для різних комп'ютерів різні. 10. Про зрозумілих комп'ютеру програмах у формі послідовностей нулів і одиниць кажуть, що вони написані на машинній мові (машинному коді). 11. Нам принципово важливо відмінність між машинним мовою та мовами високого рівня, подібними C ++. 12. Полягає воно в тому, що програма мовою високого рівня повинна бути перетворена (трансльований) в машинний код, і тільки тоді комп'ютер зможе її зрозуміти і виконати.

Task 8. Work in groups of 3 (A, B, C). Read your text extract and answer the following questions:

- 1) What is this programming language designed for?
- 2) What are its advantages/disadvantages in comparison with the other programming languages?

MAJOR LANGUAGES

Group A

Ada - is an advanced, modern programming language, designed and standardized to support and strongly encourage widely recognized software engineering principles: reliability, portability, modularity, reusability, programming as a human activity, efficiency, maintainability, information hiding, abstract data types, concurrent programming, object-oriented programming, etc. Ada does not allow the dangerous practices or effects of old languages, although it does provide standardized mechanisms to interface with other languages such as Fortran, Color, and C.

BARSIC (Business And Research Scientific Interactive Calculator) is new programming language for education, research and business. It is a powerful tool to develop applications for mathematical simulation, data processing and visualization, numerical calculations and computer animation. Main field of BARSIC applications is Physics and Mathematical Physics

HotTEA - HotTEA is an implementation of the BASIC language written in Java. You can implement applications for Internet or Intranet systems in a fraction of the time it takes to learn JAVA but with all the inherent cross-platform and security features that JAVA provides.

A COBOL Interpreter - COBOL Interpreter is a compact and easy to use. Currently still under development, this interpreter implements some new language features that are very useful. One such feature is the DELIMITED WITH option on the OPEN statement.

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Using this feature you can quickly develop simple COBOL data conversion programs to convert data that would normally require manually importing data into a database or spreadsheet product and then exporting the data to a file with the required format. Interpreted COBOL programs are very useful when interfaces need be built to convert delimited text file data provided by one system to a different file format required by the interfacing system.

Group B

EIFFEL - is a pure object-oriented language, designed for building robust applications, using programming by contract. Eiffel is an advanced object-oriented method and language that emphasizes the design and construction of high-quality reusable software, based on the principles of Design by Contract.

Java & JDK - An object oriented language initially targeted in making nicer web page. It has evolved into much more. It is becoming known as a computing platform — the base upon which software developers can build applications. Developers can build a variety of applications using Java — traditional spreadsheets and word processors in addition to mission critical applications used by the biggest companies: accounting, asset management, databases, human resources and sales.

LISP- high-level language for:

Artificial Intelligence (AI) is a branch of computer science concerned with making computers behave like humans. This includes giving expert advice, understanding a natural language, speaking like a human, and recognizing complex patterns like handwriting. The 3 most useful AI Programs today are Expert Systems (solve real world problems by following the same IF/THEN rules a human expert follows), Natural Language (focuses on getting computers to understand spoken or typed language), and Neural Networks (a digitized model of a human brain, simulated in the binary memory of computer).

Modula-3 - is a member of the Pascal family of languages. Designed in the late 1980s at Digital Equipment Corporation and Olivetti, Modula-3 corrects many of the deficiencies of Pascal and Modula-2 for practical software engineering. In particular, Modula-3 keeps the simplicity of type safety of the earlier languages, while providing new facilities for exception handling, concurrency, object-oriented programming, and automatic garbage collection. Modula-3 is both a practical implementation language for large software projects and an excellent teaching language.

Group C

Perl - It is an interpreted language optimized for scanning arbitrary text files, extracting information from those text files, and printing reports based on that information. It's also a good language for many system management tasks.

PostScript - is a programming language optimized for printing graphics and text (whether on paper, film, or CRT is immaterial). In the jargon of the day, it is a page description language. The main purpose of PostScript was to provide a convenient language in which to describe images in a device independent manner.

Prolog - is a logical and a declarative programming language. The name itself, Prolog, is short for PROgramming in LOGic. It was designed to facilitate natural language processing.

Python - is an interpreted, interactive, object-oriented programming language. Python combines remarkable power with very clear syntax. It has modules, classes, exceptions, very high level dynamic data types, and dynamic typing. There are interfaces to many system calls and libraries, as well as to various windowing systems. New built-in modules are easily written in C or C++. Python is also usable as an extension language for applications that need a programmable interface.

TXL - **TXL** is a unique programming language and rapid prototyping system specifically designed to support source text analysis and transformation tasks. It is particularly well suited to tasks that

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involve structural analysis and transformation of formal notations such as programming languages, specification languages, and structured document notations.

Task 9. Make a summary to report to the rest of the class.

Task 10. What do these abbreviations stand for?

- 55. OOP
- 56. BARSIC
- 57. AI
- 58. PROLOG

SPEAKING

1. What programming languages are designed to be used in science, education? Which ones are more useful in business, engineering? What programming languages are specially designed to work with web-pages in Internet?
2. What do you think about the prospects of programming languages development?
3. Try to make predictions for the next 10 years. What kind of new PL will appear? Which ones will become outdated in your opinion?

WORD FORMATION:

PREFIXES

When you are reading, you will come across unfamiliar words. It is often possible to guess the meanings of these words if you understand the way words in English are generally formed.
prefix → stem ← suffix

An English word can be divided into three parts: a prefix, a stem, and a suffix. **Pre** - means 'before'. A prefix, therefore, is what comes before the stem. Consider, as an example, the prefix **de-** (meaning 'reduce' or 'reverse') in a word like demagnetize (meaning 'to deprive of magnetism'). A suffix is what is attached to the end of the stem. Consider, as an example, the suffix **-er** (meaning 'someone who') in programmer ('a person who programs'). Suffixes change the word from one part of speech to another. For example, **-ly** added to the adjective quick gives the adverb quickly. Prefixes, on the other hand, usually change the meaning of the word. For example, **un-** changes a word to the negative. Unmagnetizable means 'not capable of being magnetized'. Let us now consider some prefixes, their usual meanings, and how they change the meanings of English words.

<u>Verb Prefix</u>	<u>Meaning</u>	<u>Example</u>
Em-	put into	empower
En-	‘ ‘	encourage

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Dis-	<i>opposite/not</i>	disappear/dislike
Mis-	<i>wrongly</i>	mistake/
misunderstand		
Over-	<i>too much</i>	overdo/overcook
Re-	<i>again</i>	replay/reuse
Un-	<i>reverse action</i>	unload/untie
Under-	<i>too little</i>	undercook

Adj.Prefix

Meaning

Example

Il-	<i>opposite/not</i>	illegal/illegible
Im-	<i>opposite/not</i>	impossible/immodest
In-	<i>opposite/not</i>	incorrect/insensitive
Inter-	<i>between</i>	international
Ir-	<i>opposite/not</i>	irrelevant/irresponsible
Non-	<i>not</i>	non-smoker/non-alcoholic
Over-	<i>too much</i>	overweight
Un-	<i>opposite</i>	unfair/unkind
Under-	<i>too little</i>	underweight

Negative prefixes	Positive prefixes	Prefixes of location:	Prefixes of time and order:
un- unmagnetized	re- <i>do again</i> reorganize	inter- <i>between, among</i>	ante- antecedent
in- incomplete	over- <i>too much</i> overloaded	interface,	pre before
im- impossible		interactive	prefix
il- illegal		super- <i>over</i> supersonic	prime- <i>first</i>
ir - irregular, irrelevant		trans- <i>across</i> transmit,	primary, primitive
non- <i>not</i> <i>connected with</i> non-programmable		transfer	post- <i>after</i> postdated
mis- misdirect		ex- <i>out</i> exclude,	retro- <i>backward</i> retroactive
mal- <i>bad, wrong</i> malfunction		extra- <i>beyond</i> extraordinary	
dis- <i>opposite</i> <i>feeling</i> disagree		sub- <i>under</i> subschema	
<i>opposite</i> <i>action</i> disconnect		infra- <i>below</i> infra-red	
anti- <i>against</i> antiglare		peri- <i>around</i> peripheral	
de- <i>reduce, reverse</i> demagnetize,			
decode			
under- <i>too</i>			

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<i>little underestimate</i>		inter = <i>inside</i> (intercontinental)	
	<div><div>Prefixes of size:</div><div>semi- <i>half</i>, <i>partly</i> semisphere equi- <i>equal</i> equidistant mini- <i>small</i> minicomputer micro- <i>very</i> <i>small</i> microcomputer macro- macroeconomics megalarge, <i>great</i> megabyte pre = <i>before</i> (pre arrangement) pro = <i>in favour</i> (pro-life) pro- <i>before, in</i> <i>advance</i> program,</div></div>	<div><div>Other Prefixes:</div><div>auto- <i>self</i> automatic co- co- ordinate con- <i>together,</i> <i>with</i> connect</div></div>	<div><div>Prefixes of numbers:</div><div>semi- <i>half</i> semicircle mono- <i>one</i> monochromatic bi- <i>two</i> binary tri- <i>three</i> triangle quad- <i>four</i> quadruple penta- <i>five</i> pentagon hex- <i>six</i> hexadecimal sept(em)- <i>seven</i> September oct- <i>eight</i> octal dec- <i>ten</i> decimal multi- <i>many</i> multiplexor</div></div>

Exercise 1. Read the following sentences and circle the prefixes. For each word that has a prefix, try to decide what the prefix means. Refer back to the table if you need help.

1. Floppy disks are inexpensive and reusable. 2. If a printer malfunctions, you should check the interface cable. 3. The multiplexor was not working because someone had disconnected it by mistake. 4. Improper installation of the antiglare shield will make it impossible to read what is on the screen. 5. After you transfer text using the 'cut and paste' feature, you may have to reformat the text you have inserted. 6. You can maximize your chances of finding a job if you are bilingual or even trilingual. 7. Peripheral devices can be either input devices (such as keyboards) or output devices (such as printers). 8. Your pay rise is retroactive to the beginning of June and you will receive a biannual bonus. 9. The octal and hexadecimal systems are number systems used as a form of shorthand in reading groups of four binary digits. 10. As the results are irregular, the program will have to be rewritten.

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Exercise 2. Fill in the gaps with the correct prefix from the following list

auto de dec inter maxi mega micro mini mono multi semi sub

1. Most people prefer a colour screen to a _____ chrome screen. 2. _____script is a character or symbol written below and to the right of a number or letter, often used in science. 3. A _____byte equals approximately one million bytes. 4. Once you finish your program, you will have to test it and _____bug it to remove all 114 the mistakes. 5. The introduction of _____conductor technology revolutionized the computer industry. 6. If a computer system has two or more central processors which are under common control, it is called a _____processor system. 7. The _____imal system is a number system with a base of 10. 8. When the user and the computer are in active communication on a graphics system, we refer to this as _____active graphics.

Exercise 3. Complete the sentences with the word given and one of the prefixes listed above.

- 1 This meat is.....and it's still raw. I don't like it. (cook)
- 2 This morning Iand I was late for work (sleep)
- 3 This composition is badly done. You'll have to it. (write)
- 4 The.....in the film was Angelina Jolie .(star)
- 5 Theyme in that restaurant. It was really very expensive. (charge)
- 6 After demolishing the old school, they are nowa new one. (build)
- 7 What do youfor my future? (see)
- 8 The room wasIt was very hot indeed. (heated)
- 9 I saw a film about a famous Western (law)
- 10 That supermarket isits products. Let's go shopping there. (sell)
- 11 During the war they builtshelters. (ground)
- 12 Don'tTake it easy. (do)
- 13 They havethe cinema they had closed down . (open).

Exercise 4. Translate the following words paying attention to the use of negative prefixes

dis-, in-, ип-, non-, ir-

dis-: disadvantage; disconnect; disappear; disclose; discomfort; discontinue; discount; discredit; discriminate; disintegrate.

in-: invisible; inaccurate; inactive; incapable; incompact; insignificant; inhuman; informal; ineffective; indifferent; indecisive; inconsumable; incorrect.

un-: uncontrollable; unbelievable; unable; unchanged; uncomfortable; uncommunicative; undisciplined; unexpected; unfavourable; unforgettable; unkind.

non-: non-effective; non-aggressive; noncomparable; non-computable; non-constant; non-controllable; non-digital; non-dimensional; non-programmable; non-usable.

ir-: irregular; irrelative; irresponsible; irrational; irreplaceable; irrerecognizable.

GRAMMAR REVISION

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Exercise 5. Put the verbs in brackets into the correct tenses.

- 1) They _____ your lessons. (not like)
- 2) While we _____ to the station it _____ to snow, (drive) (begin)
- 3) Watch this runner. He _____ (win).
- 4) After the centre forward _____ the first goal the fans _____ mad (score) (go)
- 5) I _____ a shooting star (never see)
- 6) We _____ the results tomorrow. (know)
- 7) Diana _____ Beethoven's moonlight sonata last night. (play)
- 8) She _____ you are an old fool. (think)
- 9) Bob _____ three letters since breakfast. (write)
- 10) Kate _____ in London (not live)
- 11) She _____ me an answer when I asked her. (not give)
- 12) After Jane _____ a fashion magazine she _____ the piano, (read) (practise)
- 13) Our landlady _____ us a cup of tea last night. (give)
- 14) Mr Brightwell _____ (phone) his secretary all day long .
- 15) I _____ any dressmaking since I left school, (not do)
- 16) Mr Bellows _____ from the USA. (just arrive)
- 17) Mr Brown _____ a letter every day. (write)
- 18) Mrs Mauldling _____ the letter immediately after she _____ it (post) (finish)
- 19) The Smiths _____ yet. (not come)
- 20) I _____ two exercises, would you like to do the third? (correct)

Exercise 6. Choose the right tenses.

THE LITTLE GIRL AND THE WOLF

One afternoon a big wolf ... (to wait) in a dark forest for a little girl to come along carrying a basket of food to her grandmother. He (to wait) for an hour and a half and was about to loose his patience. Finally a little girl did come along and she ... (to carry) a basket of food. ‘(to carry) that basket to your grandmother?’ asked the wolf. The little girl said yes, she was. So the wolf ... (ask) her where her mother (to live) and the little girl ... (to tell) him and he ... (disappear) into the wood.

When the little girl ... (to open) the door of her grandmother’s house she ... (to understand) that something (to happen). There (to be) somebody in bed with a nightcap and nightgown on. She ... (to approach) no nearer than twenty-five feet from the bed when she ... (to see) that it was not her grandmother but the wolf, for even in a nightcap a wolf (not to look) in the least like anybody’s grandmother. So the little girl ... (to lake) an automatic pistol out of her basket and ... (to shoot) the wolf dead.

Moral: It is not so easy to fool little girls nowadays as it used to be.

Exercise 7.

A. Put the words in the following sentences in the correct order.

- 1) have how we to do many write compositions?
- 2) with you help needn't the shopping.
- 3) needn't you gone much to so have trouble.
- 4) to just I've got pass.
- 5) to you often have do weekend study at the?
- 6) are how words write we to many supposed?
- 7) mustn't ink use you.
- 8) draft to we need do write a?
- 9) fill do have to up I?
- 10) you what it supposed do think is be to?

B. Now match each of the sentences above to an appropriate response below. Write the number of the sentence in the gap.

- a. Between 120 and 180.
- b. I know, but I'd like to.
- c. What am I supposed to write with then?
- d. Don't worry. I'm sure you will.
- e. The letter from Part 1 and another question from Part 2.
- f. Yes, I'm afraid I do
- g. It was a pleasure.
- h. No, we have enough petrol.
- i. No, but you should always plan your work before you start to write.
- j. I have no idea. Maybe the sun.

Exercise 8. Choose the best form.

1. We win, but I don't think there's much chance. (may, might)
2. That be her daughter – they're nearly the same age. (can't, mustn't)
3. You absolutely go and see Liz. (should, must)
4. I think you try to relax more. (should, must)
5. You pass a special exam to be a teacher. (must, have to)
6. In this country boys do military service. (must not, don't have to)
7. When I was 18 we two years in the army (had to do, must have done)
8. She very quietly – I didn't hear her go. (had to leave, must have left)
9. You get in without a ticket – not a chance. (may not, can't)
10. At what age you get a driving license? (can, may)

Exercise 9. Do you know the English words for nationalities and languages? Complete the

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sentences; use a dictionary to help you.

1. The people who live in speak Greek.
2. The language that people speak in Hungary is called
3. The language people speak in China is called
4. The people who live in speak Italian.
5. The live in Turkish.
6. The language Algeria is called Arabic.
7. The people Holland
8. The language Irish.
9. The people Portugal
10. Japan

Exercise 10. Transform the sentences to the passive:

1. They owe a lot of money to the bank.
2. You can buy videos like this one anywhere.
3. Someone has to write the history of the European Community one day.
4. Someone may have already written the history of the European Community.
5. When we arrived home, we found that someone had broken one of our windows.
6. They have sold their car to pay their debts.
7. The manager always welcomes new employees.
8. They are building a new supermarket near the church.
9. They fought the battle in 1623.
10. Someone was cleaning the windows while I was there.
11. Someone has moved my desk!
12. They are taking the refugees to a camp outside the village.
13. Someone has signed all the documents before I arrived.
14. They were questioning us and searching our vehicle at the same time.
15. They will post our letters when the ship arrives at the next port of call.
16. They are opening the case again because they're not satisfied with the verdict.
17. Have you changed anything?
18. How soon will they repeat that TV program?
19. Have you prepared all the documents?
20. Have they tested all the machines?

Exercise 11. Put the right form of infinitive (with or without to).

1. I've never been to Italy but I'd like there. (go)
2. I'm in a difficult position. What do you advise me? (do)
3. She said the letter was personal and wouldn't let me it. (read)
4. The customs officer made Sally her case. (open)

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5. We were kept at the police station for two hours and then we were allowed ... (go)
6. Hot weather makes me tired. (feel)
7. Where would you recommend me for my holidays? (go)
8. The film was very sad. It made me (cry)
9. Carol's parents always encouraged her hard at school. (study)
10. Let me your bag for you. (carry)
11. Her parents wouldn't let her out alone. (go)

WRITING

1. Describe the characteristics of the succeeding generations of computer programming languages.
2. Describe the differences between machine languages, assembly languages and high-level languages.
3. Name four common high-level programming languages.
4. Today programming methods are undergoing changes. New fourth-generation languages, fifth-generation languages and object-oriented programming methods are now in use. Describe the differences in these programming approaches.

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UNIT 14

SOFTWARE ENGINEERING

Vocabulary Bank Unit 14

Task1. Read and learn the basic vocabulary terms.

- | | |
|----------------------------|--------------------------|
| 1. analyst (n) | 22. iteration (n) |
| 2. artificial | 23. label |
| 3. artificial intelligence | 24. loop (n) |
| 4. browse | 25. loop instruction |
| 5. bundle (v) | 26. maintain (v) |
| 6. clarify (v) | 27. markup (adj, n) |
| 7. coding | 28. markup language |
| 8. decision tables | 29. modify (v) |
| 9. direct implementation | 30. network system |
| 10. diverse (adj) | 31. pilot implementation |
| 11. documentation | 32. polymorphism, |
| 12. encapsulation | 33. polymorphys |
| 13. encapsulation (n) | 34. pseudocode (n) |
| 14. executable modules | 35. repeatedly (adv) |
| 15. feasibility (n) | 36. sequence (n) |
| 16. fetch (v) | 37. software engineering |
| 17. flowchart (n) | 38. specification (n) |
| 18. implementation (n) | 39. sticky (adv) |
| 19. Information systems | 40. systems analyst |
| 20. inheritance | 41. tag codes |
| 21. intelligence | 42. testing and adapting |

READING ACTIVITY

TEXT 14A. SOFTWARE ENGINEERING

Software engineering is the discipline of designing high quality software solutions. Software consists of programs (sets of instructions for controlling a computer) and data (the material that has to be processed). Programs are written in computer languages by people called programmers. A systems analyst is a person who designs or modifies information systems to meet users' requirements. This includes investigating feasibility and cost, producing documentation, and testing prototypes of the system. Producing a program, therefore, involves a number of stages including:

- a) clarifying the problem by considering the requirements of the potential users
- b) designing the solution to the problem by first deciding on the overall structure of the solution
- c) coding the program by first choosing an appropriate programming language and inputting the program code
- d) testing and debugging the program (identifying and fixing any problems or faults in the program code)
- e) documenting and maintaining the program including writing instructions for using the program.

Systems analysts first need to talk to the people involved in the computing problem, including the people managing the system and the users or potential users of the system. They need to establish factors such as:

- a) the nature of the problem
- b) what systems already exist
- c) to what extent any existing systems are computerised (changed so that they can be operated or controlled using a computer)
- d) what output (the processed data or signals that come out of a computer system) will be required from the system
- e) who will be using the system and what parts of the system they need to be able to use
- f) the computing experience of the staff and what training would be required
- g) what hardware (the physical components of a computer system) already exists and what would need to be added, including the specification of the hardware and whether a network system is required (a system where a number of computers and peripheral devices are connected together).

They then have to plan the structure of the solution and check it through with the people involved to make sure it meets their requirements. Next, they have to choose a suitable programming language and write the program (a set of instructions, written in a computer language, that control the behaviour of a

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computer), continually testing and adapting it until it works to the satisfaction of the customer and users. The system then has to be put into service and the users have to be trained. This involves documenting the program specifications and writing instructions for using the system.

Programming languages commonly use different structures for sequencing program instructions, including:

- conditional instructions i.e. if a certain condition is true, then process this instruction (*if X then Y*). Decision tables are used to indicate how a conditional structure will process data. They show all the different inputs that might arise for each condition and the resulting outputs that would be produced by the conditional instruction.

- iterations or loop instructions i.e. process these instructions repeatedly until or while a particular condition is true, or false (*do ... until...* or *do ... while ...*).

Program flowcharts can be used to show the sequence of instructions in a program and are sometimes used for designing parts of programs such as iterations. Pseudocode is a method of writing a description of a computer program using a mixture of natural language and computer language code.

There are a large number of computer languages available for use by programmers. Each language is designed for use in solving particular types of problem and therefore has particular strengths and weaknesses. A systems analyst has to decide which language is most appropriate in each situation. Languages such as C++ are particularly suitable for writing systems programs (programs that are used to control the basic functions of a computer system e.g. operating system programs). Languages such as Visual Basic and Pascal are easy to use and are particularly suitable for learning how to program. FORTRAN is designed for solving engineering problems, COBOL for writing business programs, Ada for military purposes, Prolog and LISP for working in artificial intelligence (an area of computing concerned with developing computer programs that perform tasks that can normally only be done using human intelligence). Logo is particularly suited for use by young children. Some languages such as HTML and XML are markup languages rather than programming languages i.e. they use tag codes (labels) for marking text for use in programs such as Web browsers. Languages such as Java and Perl have a number of specialised uses including adding features to Internet connections and webpages (hyperlinked documents).

Converting to new computer systems can be done in different ways. Each strategy has its advantages and disadvantages. These include:

- a) direct implementation where the old system is simply removed and the new system installed. In this strategy only one system is used at any one time but there is no fall back (alternative system that can be used if problems occur in the main system) if the new system does not operate properly.

- b) parallel implementation where the old and the new systems are both used at the same time until the users are satisfied that the new system is working properly. The advantage is that if the new system

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does not operate properly, the old system is available as a fallback. The disadvantage is that two systems have to be maintained.

c) phased implementation where the old system is gradually replaced by the new system, one part at a time. The advantage is that people can gradually get used to the new system and certain problems can be dealt with as they arise. The disadvantage is that this method is more complex and time-consuming. In addition, there may be problems of incompatibility between the old and new systems.

d) pilot implementation where the new system is tried out in one section of the company to make sure that it works as required. The advantage is that problems can be identified and solved before the new system is implemented throughout the company. The disadvantage is that it takes longer to introduce the new system.

Task 2. Answer the following questions.

1. What does the term “software engineering” imply? 2. What does software consist of? 3. What do systems analysts do? 4. What are the stages of producing a program? 5. Why do systems analysts need to talk to different specialists? What factors do they need to establish? 6. When can they start writing a program? 7. What is used to show the sequence of instructions in a program? 8. What programme instructions are considered in the text? 9. What is a pseudocode? 10. Why are there a large number of computer languages available for use by programmers? 11. Can you compare strengths and weaknesses of different programming languages? 12. What are the ways of converting to new computer systems? 13. What are advantages and disadvantages of direct implementation and pilot implementation?

Task 3. Put these five stages of programming in the correct sequence.

I. a) Design a solution

b) Code the program

c) Document and maintain the program

d) Clarify the problem

e) Test the program

II. To which stage do each of these steps belong.

a) Clarify objectives and users.

b) Debug the program.

c) Write programmer documentation.

d) Do a structured walk through.

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- e) Select the appropriate programming language.

Task 4. Find the English equivalents for the following word combinations

1. враховувати вимоги; 2 програмування, розробка програмного забезпечення; 3. постійна перевірка і налаштування; 4. знайти і виправити помилки; 5. загальна структура рішення; 6. відповідати вимогам користувача; 7. здійснимість і вартість; 8. супроводжувати програму; 9. технічні умови на апаратні засоби; 10. встановлювати послідовність інструкцій програми, 11. вихідних даних, результат обчислень.

Task 5. Match the terms with their definitions.

artificial intelligence, b) a program, c) a markup language, d) systems programs, e) a pseudocode, f) an output, g) a systems analyst, h) a network system

1. A person who designs or modifies information systems to meet user's requirements. 2. A set of instructions written in a computer language that control the behaviour of a computer. 3. The processed data or signals that come out of a computer system. 4. A system where a number of computers and peripheral devices are connected together. 5. A method of writing a description of a computer program using a mixture of natural languages and a computer language code. 6. Programs that are used to control the basic functions of a computer system. 7. Developing computer programs that perform tasks that can normally be done using human intelligence. 8. A set of tags that can be inserted into a document to indicate its layout and appearance.

Task 6. Mark the following as True or False.

1. Pilot implementation means that both systems run at the same time for a period. 2. Phased implementation is when parts of the system are converted separately. 3. Parallel implementation is when the new system is piloted in part of the company before extending it to the whole company. 4. Pascal is extremely difficult to use and is not suitable for learning how to program. 5. Fortran is designed for writing business programs. 6. Java and Perl have a number of specialized uses including adding features to internet connections and webpages.

Task 7. Complete the gaps using the verbs from the box.

collected, put, generated, will flow, will help, be directed, be implemented, touch,
will use, will be used, were uncovered, include

Based on the data ... (1), the systems analyst must ... together an implementation plan. This plan should ... a logical model of the proposed new system, with a representation how information ... , through the new system from input, through processing, to output. The plan should ... on every potential use of data throughout the organization. As with the reports ... during the previous study stages, the report should be written in terms of the system's user's – in this case, in terms, of how users ... the new system and how it ..., them to carry out their jobs. The solutions report should ... to management, to help them understand the need for the new system, the way the new system ... , how it will help the entire organization and how it can ... as a cost effective solution to the problems that

Task 8. Translate the following sentences.

1. Computer information systems may be designed to take care of just one operational area, but today's more complex systems are more likely to be designed to integrate a variety of operational procedures. 2. New methods are developed to deal with the complex process of designing and maintaining computer systems. 3. A website designer wants to enable the data or his website to be easily processed by a number of different programs. 4. Each element of the system has a particular function and each unit must be designed to interact with the other elements of the system. 5. Although the complexity of the tasks to be performed and the number of the users to be served will help to determine the type of computer to be used, there may be a number of different hardware configurations that will meet the need. 6. When users of a system access the data for some useful purpose, they are accessing the data in order to learn from it or to add it to other types of data for decision making. 7. A computer information system must be seen as a system that is used to transform data into useful information. 8. If the information system is to be successful, it must be designed to provide information in a way that is usable and useful to all management personnel. 9. Using centralised system, computer communications will undoubtedly be used to transmit data electronically between locations. 10. To update or modify an existing system the same procedures can be used. 11. As the process of systems analyses and design has been formalised, a new kind of professionals, known as systems analysts has emerged with the special skill and knowledge

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required to deal with all aspects of systems development. 12. The systems analysts' function is to design and implement system that facilitates the storage and processing of data, and methods for accessing that data.

Task 9. What do you know about programming? Answer the Internet Quiz.

1. When creating a computer program, the _____ designs the structure of the program.

- a) end user
- b) systems analyst
- c) programmer
- d) all of the above
- e) none of the above

2. Checking a computer program for errors is called _____.

- a) bugging
- b) debugging
- c) correcting
- d) syntaxing

3. The computer itself uses _____ language.

- a) natural
- b) assembly
- c) machine
- d) high-level
- e) none of the above

4. The language which is best for mathematical models is _____.

- a) FORTRAN
- b) BASIC
- c) Java
- d) C
- e) COBOL

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5. The term BASIC is an acronym for _____.

- a) Balanced Assembly System Integrated Code
- b) Basic All System Internal Code
- c) Beginner's Assembly Syntax Instruction Code
- d) Beginner's All-purpose Symbolic Instruction Cody

6. A programming language which looks like normal English is a(n) _____ language.

- a) normal
- b) high-level
- c) natural
- d) 4GL

7. The process of writing the computer instructions is called _____.

- a) coding
- b) compiling
- c) debugging
- d) interpreting

8. The most widely used language for business programs is _____.

- a) FORTRAN
- b) BASIC
- c) Java
- d) C
- e) COBOL

9. The _____ must decide what a new program is to accomplish.end user

- a) systems analyst
- b) programmer
- c) supervisor

Task. 10. Work in groups and discuss the following questions.

1. Have you ever had any problems with the computer?

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2. What kind of errors do you make with computers?
3. How do you behave when things go wrong with a computer?

Task 11. Read the text on the page below and complete the table.

	Text A	Text B	Text C
Type of error			
Definition			
Example			
Ways to avoid or deal with this kind of error			

System errors affect the computer or its peripherals. For example, you might have written a program which needs access to a printer. If there is no printer present when you run the program the computer will produce a system error message. Sometimes a system error makes the computer stop working altogether and you will have to restart the computer. A sensible way of avoiding system errors is to write code to check that peripherals are present *before* any data is sent to it. Then the computer would warn you by a simple message on the screen, like ‘printer is not ready or available’.

Syntax errors are mistakes in the programming language (like typing PRNIT instead of PRINT). Syntax errors cause the program to fail. Some translator programs won’t accept any line that has syntax

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errors. Some only report a syntax error when they run the program. Some languages also contain special commands such as *debug*, which will report structural errors in a program. The programming manual for the particular language you're using will give details of what each error message means.

Logic errors are much more difficult to detect than syntax errors. This is because a program containing logic errors will run, but it won't work properly. For example, you might write a program to clear the screen and then print 'hello'. Here is a code for this:

```
10    Message
20    PRINT 'Hello'
30    CLS
40    END
```

The code has a logic error in it, but the syntax is right so it will run. You can get rid of logic errors from simple programs by 'hand-testing' them or doing a 'dry run' which means working through each line of the program on paper to make sure it does what you want it to do. You should do this long before you type in the code.

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Task 12. Read the quotations about 'programming' below. Discuss with other students what point you think each quotation is trying to make and whether you agree with it.

- Programming today is a race between software engineers striving to build bigger and better idiot-proof programs, and the Universe trying to produce bigger and better idiots. So far, the Universe is winning. (Rich Cook)
- To understand a program you must become both the machine and the program. (Alan J. Perlis)
- Perhaps if we wrote programs from childhood on, as adults we'd be able to read them. (Alan J. Perlis)
- It is easier to change the specification to fit the program than vice versa. (Unknown)
- One machine can do the work of fifty ordinary men. No machine can do the work of one extraordinary man. (Elbert Hubbard)
- Those parts of the system that you can hit with a hammer are called hardware; those program instructions that you can only curse at are called software. (Anonymous)
- The most harmful error of any program will not be discovered until the program has been in production for at least six months. (Troutman's programming postulates)
- Real programmers never work from 9 to 5. If any real programmer is around at 9 a.m., it's because they were up all night. (Some computer geek)

Task 13. Read the text and do the exercises below.

Text 14 B. STEPS IN COMPUTER PROGRAM DEVELOPMENT

The steps in the development of each of the computer programs that make up the computer program component of a system are:

- define the function of the program;
- plan the logic of the program;
- code the program;
- test and debug the program;
- complete the documentation.

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Although the programmer is responsible for writing the computer program, the system analyst must communicate the computer program requirements to the programmer. The function of each program was defined for the programmer when functions were allocated during system design. Detailed data flow diagrams (DFD) are prepared for each program from the decomposed DFDs created during the design phase. These DFDs define the function of each program.

In program planning, the logic to be used to solve the problem is developed. Algorithms, computer program logic flowcharts, and structure charts are useful tools for program planning. Algorithms are sets of rules or instructions used to accomplish tasks. They may be stated as formulas, decision tables, or narratives.

The next step, writing, or coding, a program, is the actual writing of computer instructions. These instructions will be translated to machine code and followed by the computer; they should follow the steps of the program logic plan.

Several programming languages, particularly COBOL, PL/I, and RPG, are commonly used to solve business problems. In addition to these traditional languages, organizations using database management systems may choose to generate programs using the query language of the DBMS.

These query languages are part of a package of programming tools known as fourth-generation languages. Each language has its advantages and disadvantages. Most computer installations have a standard language used by their programmers. Programmers usually are not given a choice of language unless some special circumstances exist.

Testing and debugging a program involve:

- translating the coded program into machine language, a process called compilation;
- testing the translated program with sample data and checking the result.

If the results of testing are not correct, the program is said to have "bugs". Debugging is the process of correcting computer programs to obtain correct results.

The last step is to complete the documentation for the program. The documentation must include a statement of the purpose of the program, a description of the solution logic, a listing of the program instructions, and sample outputs from the completed programs. Information provided to the programmer by the analyst, such as descriptions of program inputs, outputs, and files, should be included. Instructions to operators explaining how the program is to be used must be written before the program documentation is completed.

Task 14. There are answers to questions about the text. Write the questions.

1. There are five main steps in the computer program development.

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2. For writing the computer program.
3. It is developed in program planning.
4. As formulas, decision tables, or narratives.
5. Yes, it is the actual writing of computer instructions.
6. No, programmers usually are not given a choice of languages.
7. It is called compilation.
8. When the results of testing are not correct.
9. To obtain correct results.
10. They must be written before the program documentation is complete.

Task 15. Choose the correct word to complete each sentence. You may have to change some words slightly.

compilation, compiler, compile, compiled

1. It took weeks _____ the new customer database.
2. A source program cannot be directly processed by the computer until it has been _____.
3. If the errors are removed and the program re-run, the process of _____ starts all over again, but this time the _____ program will be executed.
4. A computer needs its own _____ for the various high-level languages if it is expected to accept programs written in those languages.

program, programmer, programming, programmable

1. The _____ CD-player allows the user to change the order tracks are played in.
2. She _____ the VCR to come on at eight.
3. Most computer _____ make a plan of the program before they write it. This plan is called a flowchart.
4. It is unusual for a _____ to work correctly the first time it is tested.

bug, debug, debugger, debugging

1. The best compilers usually include an integrated _____ which detects syntax errors.
2. New programs need _____ to make them work properly.
3. Once you have written your program you have to test it with sample data to see if there are any _____ or errors.

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instruction, instruct, instructed, instructor

1. The next step is to design an algorithm, which is a step-by-step plan of _____ used to solve the problem.
2. We have been _____ that a decision will not be made before the end of the week.
3. Our maths _____ explained to us the principles of binary arithmetic.

Task 16. Work in pairs and translate the following poem by Gene Ziegler into Ukrainian.

PROGRAMMERS

10 young programmers began to work online,
One didn't pay for Internet, and then there were 9.

9 young programmers used copies that they made,
But one was caught by FBI, and then there were 8.

8 young programmers discussed about heaven,
One said, "It's Windows 95", and then there were 7.

7 young programmers found bugs they want to fix,
But one was fixed by the bug, and then there were 6.

6 young programmers were testing the hard drive,
One got the string "Format complete", and then there were 5.

5 young programmers were running the Front Door,
The BBS of one was hacked, and then there were 4.

4 young programmers worked using only C,
One said some good about Pascal, and then there were 3.

3 young programmers didn't know what to do,
One tried to call the on-line help, and then there were 2.

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2 young programmers were testing what they done,
One got a virus in his brain, and then there were 1.

1 young programmer was as mighty as a hero,
But tried to speak with users, and then there were 0.

Boss cried: "Oh, where is the program we must have?!"
And fired one programmer, and then there were 10.

WORD FORMATION

SUFFIXES

Most Common Suffixes

1. -able, ible = can be done : identifiable, predictable
2. -al, ial = has property of : personal
3. -ant = having an effect : coolant, accelerant
4. -based = forming a major part of : computer-based, oil-based
5. -cy = state or quality : accuracy, literacy, urgency
6. -ed* = past verb : turned
7. -ee = person affected by something : interviewee, trainee, addressee
8. -en = made of : golden
9. -er = comparative : higher
10. -er = one who : doer, actor
11. -est = superlative : best, biggest
12. -free = without : debt-free, pain-free
13. -ful = full of : careful, joyful
14. -hood = state, condition, period : adulthood, motherhood
15. -ic = having property of, connected with : linguistic, photographic, electric
16. -ics = study of : genetics, electronics
17. -ify = give something a quality : clarify, purify, solidify
18. -ing* = present participle : running

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19. –ism = belief, behaviour : modernism, heroism
20. –ist = person with specific beliefs or behaviour : anarchist, optimist
21. –(t)ion = act, process : action
22. –(i)ty = state of : infinity, sanity
23. –(t)ive = adjective : motive, votive
24. –ize, -ise = bring about a state or condition : modernize/modernize, colonize/colonise
25. –less = without : fearless, careless, childless, meaningless
26. –like = resembling : bird-like, child-like, hook-like
27. –ly* = having : quickly, quietly
28. –ment = action, process : enjoyment
29. –ness = quality or state of : kindness, effectiveness, openness
30. –ocracy = type of ruling body : meritocracy, bureaucracy
31. –ocrat = person ruling : technocrat, aristocrat
32. –ology, -ological = study of : archaeology, biology, biological, geology, physiological
33. –ous = having : joyous, religious
34. –proof = protected against, safe from : waterproof, dustproof
35. –s* = more than one : books
36. –ship = state or experience of having a specific position : professorship, leadership
37. –y = having : happy, windy

Use these suffixes correctly, and you look and sound pretty smart.

What Are Suffixes?

Suffixes are last syllables like “ed” and “ly” that have their own meaning.

Suffixes combine with words to create new meanings.

1. Turn + ed = Turned (in the past)
2. Quick + ly = Quickly (how it turned)

Why Learn Suffixes?

Suffixes add meaning to thousands of words.

Learn a few Suffixes, and you open up the meaning of thousands of words.

The four most frequent suffixes are 97% of suffixed words!

Exercise 1. Put each of the following words in its correct place in the sentences below.

interviewer / trainer / employer / interviewee / trainee / employee

1. I was given a pay rise of £1,000 by my _____.
2. A football team normally has a _____ to keep the players fit.
3. A television _____ should always give the _____ a proper chance to express his or her opinions.
4. That company has 200 people working in its factory. My brother works there and I, too, am an _____.
5. At the moment he's a management _____. If he's successful, he'll be given his first responsible position in January.

Exercise 2. Put in each space below a noun made from the adjective in brackets after the sentence.

1. South Africa has great mineral*wealth*..... (wealthy)
2. _____ is one of the world's great problems. (poor)
3. Tell the _____. (true)
4. I must drink something. I'm dying of _____. (thirsty)
5. I must eat something. I'm dying of _____. (hungry)
6. He was very bright. He passed the exam with _____. (easy)
7. In his _____ he travelled a lot. Now he is too old. (young)
8. I don't know how to express my _____ for your help. (grateful)
9. It's very late. There's not much _____ of his coming now. (likely)
10. To be a soldier you need to be strong and in good _____. (healthy)
11. There was no doubt about his _____. He was sent to prison for five years. (guilty)
12. He escaped to _____ by climbing over the prison wall. (free)

Exercise 3. Put in each space below a noun made from the adjective in brackets after the sentence.

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1. The ...*death*... of the president was announced on the radio. (dead)
2. In past wars soldiers were sometimes shot for _____. (cowardly)
3. He died to save the lives of others. It was an act of _____. (heroic)
4. He was a very thoughtful, philosophical person. A man of great _____. (wise)
5. She felt great _____ at being treated so badly. (angry)
6. He left his town to find _____ in the big city. (famous)
7. The tourists were impressed by the _____ of the jewellery in the museum. (splendid)
8. It was a long, slow film. I nearly died of _____. (boring)
9. He was filled with _____ at the terrible things he saw in the war. (horrible)
10. The ice quickly melted in the _____ of the sun. (hot)
11. His _____ was hurt when a younger man was given the job above him. (proud)
12. I think it shows _____ of character to admit you are wrong. (strong)

Exercise 4. Read the words given below. State the part of speech. Translate the words into Ukrainian.

A) to add – addition – additional, large – enlarge – enlargement, to create – creation – creator – creative – creatively, to divide – division – divisible – indivisible, to desire – desire – desirable – undesirable, to vary – variety – various – variable – invariable, to appear – appearance – disappear – disappearance, to act – act – active – activity – actor – action – activate – activation, long – length – to lengthen, possible – impossible – impossibility, depend – dependence – independence, differ – different – difference – indifferent, product – productive – unproductive – productivity – production, to compare – comparison – comparative – comparatively

B) consequent – consequently – consequence, to flood – flood – floodable, to deteriorate – deteriorating – deterioration, contaminate – contaminated – contaminating – contamination – contaminant, to erode – eroded – erosive – erosion, include – inclusion – inclusive – inclusively – inclusiveness, mount – to mount – mountain – mountaineer – mountainous, move – movable – mover – movement, to preserve – preserve – preservation – preservative, relate – related – relation – relationship – relative – relatively – relativity

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Exercise 5. It's interesting. Read and try to guess the meaning of the following words which can characterize some features of a person.

open-hearted, sweet-hearted, feather-brained, empty-headed, grey-headed, bull-headed, even-minded, high-minded, high-handed, high-spirited, low-spirited, low-born, higher-up, swift-handed, long-legged, snub-nosed, green-eyed, wide-shouldered, good-humoured, dog-tired, good-for-nothing, touch-me-not, well-to-do, cat-and-dog (life), strongly-built, chicken-hearted, one-eyed, stay-at-home, stone-blind, double-faced.

Exercise 6. Read the words.

- **Pay attention to the stress in nouns and adjectives.**

`atom – a`tomic, `organ – or`ganic, `metal – me`tallic, `period – peri`odic, e`conomy – eco`nomic, `science – scien`tific, `element – ele`mentary, `industry – in`dustrial, a`cademy – aca`demic, `strategy – stra`tegic, ge`ography – geo`graphic, meteo`rology – meteo`rological, ge`ology – geo`logical

- **Read the words. Pay attention to the stress in verbs and nouns.**

`educate – edu`cation, `graduate – gradu`ation, `demonstrate – demon`stration, `illustrate – illust`ration, `indicate – indi`cation, `concentrate – concen`tration, com`municate – communi`cation, in`vestigate – investi`gation

Exercise 7. Make verbs ending in –en , –ify, –ize from the following words. Translate them.

–**en**: length, strength, height, light, wide, broad, bright, hard, weak, thick, dark

–**ify**: solid, pure, simple, intense, electric, quality

–**ize**: magnet, revolution, organ, crystal, character, special, active, real, economy, energy

Exercise 8. For questions 1-8 read the text below. Use the word given in capitals at the end of each line to form a word that fits in the space in the same line. There is an example at the beginning (0).

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If you are (0)..... <i>interested</i> ...	INTER EST
in the life of birds you should know that birds do not(1)	USUAL
fly very high and we can .....(2) see them	EASY
flying from the ground. A lot of birds when on .....(3)	MIGR ATE
fly from 100 to 400 metres high as the .....(4) shows. Some	EQUIP
birds, like penguins, cannot fly, but they are good .....(5)	SWIM
and good .....(6) too.	JUMP
They .....(7) jump into and	QUICK
out of water and they look so .....(8) when they walk.	FUN

Exercise 9. Read the text below. Use the word given in capitals at the end of each line to form a word that fits in the space in the same line.

The English language is .....(1) growing and	CONST ANT
changing. No one has ever included every word from the language in a single dictionary. To do that would mean to ...(2)	WRITE
the dictionary every day, which is .....(3).	POSSIB LE
But people have a lot of ....(4)	INFOR M
about the .....(5)	GROW
and .....(6)	DEVEL OP
of the language, its .....(7) .	EXPAN D
Scholars have .....(8) ideas of how any new	VARY
discovery contributes to the process of new words(9).	ADOPT
When people are faced with a new(10)	SITUAT E

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and they do not have a word for its(11) they sometimes	DESCRIBE
make up one. But no one makes a formal(12) about it.	DECIDE
Many .....(13) begin to have trouble when they start	READ
to read passages about .....(14) subjects.	FAMILIAR
Such people often .....(15) the passage as they cannot tell	UNDERSTAND
what the .....(16) of the sentence is.	MEAN
They come across .....(17) words which prevent	KNOW
the process of .....(18) . There are	COMPREHEND
many ....(19) ideas that can help you and the first is,	USE
“Don’t get .....(20) .	NERVE
Try and read the passage .....(21), learn from context.	ATTENTIVE
Pay .....(22) to what the rest of the passage says.	ATTENTIVE
English has a very .....(23)	EFFICIENCY
method of adding words .....(24)!	BORROW
As an English .....(25) travels the globe he adds a wealth	SPEAK
of words from other languages. By the 1600’s the English were .....(26)	ACTIVE
involved in .....(27)	EXPLORE
They were looking for countries to establish trade(28)	CONNECT
with. In those countries a(29)	TRAVEL

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was exposed to new ideas, climates full of heat and(30)	ICE
cold,(31)	DIFFER
plants and animals. Rather than make up(32)	END
rows of new words for everything he saw an .....(33) often used the words of the natives. These	EXPLORE
words became an .....(34) part of the English vocabulary.	IMPOR T

GRAMMAR REVISION

Exercise 10. Put each verb in brackets into a suitable verb form.

At the dentist's

I was on time for my dentist's appointment, but the dentist was still busy with another patient, so I (1).....(sit) in the waiting room and (2).....(read) some of the old magazines lying there. While I (3).....(wonder) whether to leave and come back another day, I (4).....(notice) a magazine article about teeth. It (5).....(begin): "How long is it since you last (6).....(go) to the dentist? (7).....(you go) regularly every six months? Or (8)..... (you put off) your visit for the last six years?" Next to the article was a cartoon of a man in a dentist's chair. The dentist (9).....(say): "I'm afraid this (10).....(hurt)." I (11).....(suddenly realized) that my tooth (12).....(stop) aching. But just as I (13).....(open) the door to leave, the dentist's door (14).....(open). "Next please", he (15).....(call), as the previous patient (16)(push) past me. "Actually I'm not here to see you, I (17).....(wait) for my friend." I (18).....(shout), leaving as rapidly as I could. (19).....(you ever do) this kind of thing? Surely I can't be the only person who (20)(hate) the dentist!

Exercise 11. Underline the correct word or phrase in each sentence.

- When I was a child I *used to ride* / *was riding* a tricycle.
- That looks very heavy. *Will I* / *Shall I* help you?
- I'm waiting for Sue. *Have you seen* / *did you see* her?

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4. How long *are you working / have you been working* here?
5. I can't come out because I *haven't finished / didn't finish* my homework yet.
6. When the phone rang I *washed / was washing* my hair in the bathroom.
7. Why *do you stare / are you staring* at me like that?
8. I've finished my exams so *I'm having / I have* a party tomorrow.
9. We'd better wait here until the rain *stops / will stop*.
10. When *did you last go / have last been* to the cinema?

Exercise 12. Supply suitable active and passive forms in theses sentences using the verbs in brackets. Some variations in tenses may be possible.

1. It isn't clear how far the ozone layer (damage) by aerosol sprays. It may be possible to tell whether the hole over the Atlantic (widen) after the area (investigate) by high-flying planes.
2. These days, even the most remote places on earth (visit) by tourists. Package tours (can/arrange) for almost anywhere, from the Himalayas to the Amazonian Jungle.
3. Notices such as (English/Speak) and (Shoes/Repair) are common.
4. We constantly (remind) of the way the world (become) smaller when events taking place in different parts of the globe (flash) on our television screens.
5. If you (involve) in a car accident and someone (hurt), you (have to) report the matter to the police. If only the vehicles (damage), drivers should exchange names and addresses.

Exercise 13. Put in the correct verb forms.

1. If Jane (to help), me I (to be) in great trouble.
2. If he (to run) a bit taster, he (to win).
3. If I (to be) tired, I (may realize) what was happening.
4. If my mother (to be alive), she (to be) eighty next year.
5. Nothing (to happen), if you (to follow) the instructions.
6. I (not to cancel) the appointment, if I (not to fall) ill.
7. We (to contact) them long ago if someone (to tell) us that it was necessary.
8. If I (to be) you, I (not to believe) it.
9. I (to arrange) everything myself, if you (to ask) me in good time.

Exercise 14. Choose the right answer.

1. "Everything ____all right if they ____on time"
A) will be / come
B) will be / will come
C) would be / come
D) is / comes
E) is / will come
2. "I wouldn't argue if I ____ you"
A) am
B) will be
C) were
D) was
E) be
3. "If you ____late, we ____ without you"
A) were / will leave
B) will / will leave
C) will be / will leave
D) are / will leave
E) will / leave
4. "You wouldn't understand this in English, ____?"
A) is it
B) would you
C) isn't it
D) are you
E) wouldn't you
5. "If he ____time, he ____you this evening, but he's very busy"
A) had / would phone
B) has / phones
C) has / will phone
D) had / phoned
E) has / would phone

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6. "A ____ future depends on her character"

- A) girls'
- B) girl is
- C) girl
- D) girl's
- E) girls

7. "There are ____ chairs in the room"

- A) fifth
- B) fives
- C) a five
- D) the five
- E) five

8. "Oh, no, we can't afford it. We want something ____"

- A) cheaper
- B) cheapest
- C) the cheapest
- D) much cheap
- E) cheap

9. "A small number of people decided to leave, but ____ remained seated"

- A) another
- B) the others
- C) others
- D) other
- E) the other

10. "How many ____ have two ____ got?"

- A) wives / mans
- B) wives / man
- C) wives / mens
- D) wifs / men
- E) wives / men

11. "This is my ____ car and this is my ____ house"

- A) parent's / brother's
- B) parent's / brothers
- C) parents' / brother's
- D) parent's / brothers'

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E) parents / brothers

12. "I ____ a shower when the lights went out"

A) had

B) was having

C) had have

D) have been having

E) will have

13. "We were afraid he ____ our address"

A) had forgotten

B) forget

C) has forgotten

D) have been forgotten

E) forgot

14. "I (*to wait*) for my mother for an hour"

A) was waiting

B) am waiting

C) had waited

D) had been waiting

E) have been waiting

15. "When you return home I (*to write*) for 5 hours"

A) will write

B) had been writing

C) was writing

D) will have been writing

E) have been writing

16. "I couldn't open the door because I (*to loose*) my keys"

A) lost

B) have lost

C) will have lost

D) had lost

E) was loosing

16. "The train (*to start*) in an hour"

A) will start

B) started

C) starts

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D) will be starting

E) start

17. "We were told that the train ____ five minutes later"

A) has arrived

B) will arrive

C) was arriving

D) would arrive

E) had arrived

18. "They started producing refrigerators after they ____ tanks for year"

A) have produced

B) had been producing

C) have been producing

D) had produced

E) produced

19. "By the first of June he (*to work*) at the University for 25 years

A) will have been working

B) is working

C) has been working

D) will has been working

E) have been working

20. "My friend ____ in Boston at the moment, but he ____ from Canada"

A) lives / is coming

B) is living / comes

C) lives / came

D) is living / is coming

E) lives / came

WRITING

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Task. Draw a flowchart for one of these activities. Follow these steps:

1. Choose a simple procedure from the ones in the box below (or a simple one of your own).
2. Break the procedure down into all the steps that you have to follow. Think about where the process starts and ends, and the input from you and from the outside. When you make a decision, think of when you say 'yes' and when you say 'no', and what happens next.
3. Write exactly what happens at each stage.
4. Draw the flowchart, putting your text into the different shapes.
5. Show your flowchart to another student. Does he/she agree with your steps?

- | | |
|-------------------------------------|------------------------------|
| • Making a cup of tea or coffee | • Planning a holiday |
| • Making a telephone call | • Choosing a new computer |
| • Sending a text message exam | • Preparing for an important |
| • Answering the door | • Making a proposal |
| • Doing the translation of the text | • Getting to the University |

UNIT 15. PROGRAMMING. GRAMMAR REVISION.
UNIT 15

PROGRAMMING

Vocabulary Bank Unit 15

Task 1. Memorize the following words and word-combinations:

- | | |
|-------------------------------|--|
| 1. a form design grid | 22. pseudo code |
| 2. add-on (n) | 23. regardless |
| 3. assumption | 24. remarks |
| 4. bug | 25. repetition control structure |
| 5. computation | 26. runtime error |
| 6. constant | 27. screen-based object |
| 7. debugger | 28. self-contained |
| 8. downside | 29. sequence of steps |
| 9. event-driven | 30. step-by-step |
| 10. event-handling code | 31. structuring |
| 11. flow of execution | 32. to arrive a solution |
| 12. gracefully | 33. to deal with |
| 13. inadequate | 34. to define |
| 14. initial | 35. to launch a program |
| 15. iteration | 36. user manuals |
| 16. language-specific symbols | 37. VDE (visual development environment) |
| 17. loop | |
| 18. multiple | 38. verbal presentation |
| 19. outline (n) | 39. walkthrough |
| 20. predefined | 40. well-documented program |
| 21. programming paradigm | |

UNIT 15. PROGRAMMING. GRAMMAR REVISION.

INTRODUCTORY READING

TEXT 15 A. PROGRAM PLANNING

Computers are controlled by sets of instructions called programs. Programs are written by a person called a programmer using special languages called programming languages. Programs can be written in a variety of computer languages. The language chosen will depend on a number of factors including what system the program will run on, what the function of the program is, and the knowledge of the programmer.

Programming is the process of preparing a set of coded instructions which enables the computer to solve specific problems or to perform specific functions. The essence of computer programming is the encoding of the program for the computer by means of algorithms. The thing is that any problem is expressed in mathematical terms; it contains formulae, equations and calculations. Any problem must be specially processed for the computer to understand it, that is – coded or programmed.

The phase in which the system's computer programs are written is called the development phase. The programs are lists of instructions that will be followed by the control unit of the central processing unit (CPU). The instructions of the program must be complete and in the appropriate sequence, or else the wrong answers will result. To guard against these errors in logic and to document the program's logical approach, logic plans should be developed.

There are two common techniques for planning the logic of a program. The first technique is flowcharting.

A flowchart is a plan in the form of a graphic or pictorial representation that uses predefined symbols to illustrate the program logic. It is, therefore, a "picture" of the logical steps to be performed by the computer. Each of the predefined symbol shapes stands for a general operation. The symbol shape communicates the nature of the general operation, and the specifics are written within the symbol. Flowcharts have arrowheads to indicate the direction of program flow and special symbols to indicate different functions in the program.

The second technique for planning program logic is called pseudocode. Pseudocode is an imitation of actual program instructions. It allows a program-like structure without the burden of programming rules to follow. Pseudocode is less time-consuming for the professional programmer than is flowcharting. It also emphasizes a top-down approach to program structure.

Pseudocode has three basic structures: sequence, decision, and looping logic. With these three structures, any required logic can be expressed.

The programming process begins with a problem statement that helps you clearly define the purpose of a computer program. In the context of programming, a problem statement defines certain

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elements that must be manipulated to achieve a result or goal. A good problem statement for a computer program has three characteristics:

1. It specifies any assumptions that define the scope of the problem.
2. It clearly specifies the known information.
3. It specifies when the problem has been solved.

In a problem statement an assumption is something you accept as true in order to proceed with program planning.

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The “known information” is the information that you supply to the computer to help it solve a problem. There are also variables (values that can change) and constants (factors that remain the same) in computer programs.

Formulating a problem statement provides a minimal amount of planning, which is sufficient for only the simplest programs. A typical commercial application requires far more extensive planning, which includes detailed program outlines, job assignments, and schedules. To some extent, program planning depends on the language and paradigm used to code a computer program. The phrase programming paradigm refers to a way of conceptualizing and structuring the tasks a computer performs. For example, whereas one programmer might focus on the steps required to complete a specific computation, another one might focus on the data that forms the basis for the computation. Quite a number of programming paradigms exist, and a programmer might use techniques from multiple paradigms while planning and coding a program.

There are different program planning tools, such as flowcharts, structured English, pseudocode, UML diagrams, and decision tables, which are used to provide sufficient planning.

Regardless of the tools used, when planning is complete, programmers can begin coding, testing, and documenting. The process of coding a computer program depends on programming language you use, the programming tools you select, and the programming paradigm that best fits the problem you are trying to solve. Programmers typically use a text editor, a program editor, or a VDE to code computer programs.

A text editor is any word processor that can be used for basic editing tasks, such as writing e-mail, creating documents, or coding computer programs. When using a text editor to code a computer program, you simply type in each instruction.

A program editor is a type of text editor specially designed for entering code for computer programs.

A VDE (visual development environment) provides programmers with tools to build substantial sections of a program by pointing and clicking rather than typing lines of code. A typical VDE is based on a form design grid that a programmer manipulates to design the user interface for a program. By using various tools provided by the VDE, a programmer can add objects, such as controls and graphics, to the form design grid. In the context of a VDE, a control is a screen-based object whose behavior can be defined by a programmer.

In visual development environment, each control comes with predefined set of events. Within the context of programming, an event is defined as an action, such as click, drag, or key press, associated with the form or control. A programmer can select the events that apply to each control. An event usually requires the computer to make some response. Programmers write event-handling code for the procedures that specify how the computer responds to each event.

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A programmer's choice of development tools depends on what is available for a particular programming language and the nature of the programming project. Text editors and program editors provide a fine tool set for programs with minimal user interfaces. A visual development environment is a powerful tool for programming software applications for GUI environments, such as Windows. Most GUI applications are "event-driven", which means that when launched, the program's interface appears on the screen and waits for the user to initiate an event.

A computer program must be tested to ensure that it works correctly. Testing often consists of running the program and entering test data to see whether the program produces correct results.

When a program doesn't work correctly, it is usually the result of an error made by the programmer. A syntax error occurs when an instruction doesn't follow the syntax rules, or grammar of the programming language. Syntax errors are easy to make, but they are usually also easy to detect and correct.

Another type of program bug is a runtime error, which, as its name indicates, shows up when you run a program. Some runtime errors result from instructions that the computer can't execute.

Some runtime errors are classified as logic errors. A logic error is an error in the logic or design of a program. It can be caused by an inadequate definition of the problem or an incorrect formula for a calculation, and they are usually more difficult to identify than syntax errors.

Programmers can locate errors in a program by reading through lines of code, much like a proofreader. They can also use a tool called debugger to step through a program and monitor the status of variables, input, and output. A debugger is sometimes packaged with a programming language or can be obtained as an add-on.

Anyone who uses computers is familiar with program documentation in the form of user manuals and help files. Programmers also insert documentation called remarks or "comments" into the programming code. Remarks are identified by language-specific symbols.

A well-documented program contains initial remarks that explain its purpose and additional remarks in any sections of a program where the purpose of the code is not immediately clear.

Task 2. Mark the following statements as True or False.

1. The programming process begins with coding.
2. A typical commercial application requires a minimal amount of planning.
3. A programmer might use techniques from multiple paradigms while planning and coding.
4. Programmers typically use a program editor to code computer programs.

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5. A visual development environment provides programmers with tools to build substantial sections of a program by pointing and clicking.
6. Text editors and program editors provide a fine tool for programming software interfaces.
7. Syntax errors result from instructions that the computer can't execute.

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Task 3. Match up the words that are similar in meaning.

computation	medium
bug	scheme
to execute	error, mistake
environment	calculation
outline	carry out
to launch	instrument
tool	to start (up)

Task 4. Fill in the blanks choosing from the variants given.

1. Microsoft Visual Basic was one of the first programming languages to feature a visual development

- a) medium b) environment c) tool

2. If program testing doesn't produce the expected results, the program contains a (an) ..., sometimes called a "...".

- a) mistake b) error c) problem d) bug

3. Program planning ... depends on the language and paradigm used to code a computer program.

- a) instruments b) options c) tools

4. When the user ... GUI application, the program interface appears on the screen and waits for the user to initiate an event by clicking a menu, dragging an object, or typing text.

- a) starts up b) begins c) launches

5. A typical commercial program requires extensive planning, which includes detailed program ...

- a) plans b) outlines c) schemes

6. Some runtime errors result from instructions that computer can't

- a) execute b) make c) carry out

7. Programmers approach problems in different ways: while one programmer might focus on the steps to complete specific ..., another programmer might focus on the data that forms the basis for the ...

- a) tasks b) calculations c) computations

Task 5. Make two-word combinations using the words in columns and then fill in the following sentences.

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A: programming	B: planning
problem	error
runtime	statement
structured	manual
event	driven
program	paradigm
user	English

1. Anyone who uses computers is familiar with program documentation in the form of and help files.
- 2 The process of coding a computer program depends on programming language you use, the programming tools you select, and the that best fits the problem you are trying to solve.
3. The programming process begins with a that helps you clearly define the purpose of a computer program.
4. Most GUI applications are, which means that when launched, the program's interface appears on the screen and waits for the user to initiate an event.
5. An assumption is something you accept as true in order to proceed with
6. There are different program planning tools, such as flowcharts, pseudocode, UML diagrams, and decision tables.
7. shows up when you run a program.

Task 6. Discuss the following questions.

1. What is a problem statement?
2. What is an assumption?
3. Does the problem statement provide sufficient planning to begin coding?
4. How does a programmer code a computer program?
5. What is a text editor and a program editor?
6. What is a VDE?
7. How does a programmer know if a program works?
8. What can cause program errors?
9. How do programmers find errors?
10. Do computer programs contain any special documentation?

Task 7. Read the text, write down the words you don't know into your vocabulary and do the exercises below.

TEXT 15B. PROCEDURAL PROGRAMMING

The traditional approach to programming uses a procedural paradigm (sometimes called “imperative paradigm”) to conceptualize the solution to a problem as a sequence of steps. A program written in a procedural language typically consists of self-contained instructions in a sequence that indicates how a task is to be performed or a problem is to be solved.

A programming language that supports the procedural paradigm is called a procedural language. Procedural languages are well suited for problems that can be easily solved with a linear, or step-by-step, algorithm. Programs created with procedural languages have a starting point and an ending point.

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The flow of execution from the beginning to the end of the program is essentially linear – that is, the computer begins at the first instruction and carries out the prescribed series of instructions until it reaches the end of the program.

An algorithm is a set of steps for carrying out a task that can be written down and implemented. An algorithm for a computer program is a set of steps that explains how to begin with known information specified in a problem statement and how to manipulate that information to arrive a solution. In a later phase of the software development process, the algorithm is coded into instructions written in a programming language so that a computer can implement it.

To design an algorithm, you might begin by recording the steps you take to solve the problem manually. The computer also needs the initial information, so the part of your algorithm must specify how the computer gets it. Next, your algorithm should also specify how to manipulate this information and, finally, how the computer decides what to display as the solution.

You can express an algorithm in several different ways, including structured English, pseudocode, and flowcharts. These tools are not programming languages, and they cannot be processed by a computer. Their purpose is to give you a way to document your ideas for program design.

Structured English is a subset of the English language with a limited selection of sentence structures that reflects processing activities. Another way to express an algorithm is with pseudocode. Pseudocode is a notational system for algorithms that has been described as a mixture of English and your favorite programming language.

A third way to express an algorithm is to use a flowchart. A flowchart is a graphical representation of the way a computer should progress from one instruction to the next when it performs a task.

Before finalizing the algorithm for a computer program, you should perform a walkthrough to verify that your algorithm works. To perform a walkthrough for a simple program, you can use a calculator, paper, and pencil to step through a sample problem using realistic “test” data.

For more complex programs, a walkthrough might consist of a verbal presentation to a group of programmers who can help identify logical errors in the algorithm and suggest ways to make the algorithm more efficient.

The algorithm specifies the order in which program instructions are performed by the computer. Unless you do otherwise, sequential execution is the normal pattern of program execution. During sequential execution, the computer performs each instruction in the order it appears – the first instruction in the program is executed first, then the second instruction, and so on, to the last instruction in the program.

Some algorithms specify that a program must execute instructions in an order different from the sequence in which they are listed, skip some instructions under certain circumstances, or repeat instructions. Control structures are instructions that specify the sequence in which program is executed.

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Most programming languages have three types of control structures: sequence controls, selection controls, and repetition controls.

A sequence control structure changes the order in which instructions are carried out by directing the computer to execute an instruction elsewhere in the program.

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A sequence control structure directs the computer to the statements they contain, but when these statements have been executed, the computer neatly returns to the main program.

A selection control structure, also referred to as a “decision structure” or “branch”, tells a computer what to do, based on whether a condition is true or false. A simple example of a selection control structure is the IF...THEN...ELSE command.

A repetition control structure directs the computer to repeat one or more instructions until certain condition is met. The section of code that repeats is usually referred to as a loop or “iteration”. Some of the most frequently used repetition commands are FOR...NEXT, DO...WHILE, DO...UNTIL, and WHILE...WEND (which means “while ends”).

All the first programming languages were procedural. The first widely used standardized computer language, FORTRAN, with its procedural paradigm set the pattern for other popular procedural languages, such as COBOL, APL, ALGOL, PL/1, PASCAL, C, ADA, and BASIC.

The procedural approach is best suited for problems that can be solved by following a step-by-step algorithm. It has been widely used for transaction processing, which is characterized by the use of a single algorithm applied to many different sets of data. For example, in banking industry, the algorithm for calculating checking account balances is the same, regardless of the amounts deposited and withdrawn. Many problems in math and science also lend themselves to the procedural approach.

The procedural approach and procedural languages tend to produce programs that run quickly and use system resources efficiently. It is a classic approach understood by many programmers, software engineers, and system analysts. The procedural paradigm is quite flexible and powerful, which allows programmers to apply it to many types of problems.

The downside of the procedural paradigm is that it does not fit gracefully with certain types of problems – those that are unstructured or those with very complex algorithms. The procedural paradigm has also been criticized because it forces programmers to view problems as a series of steps, whereas some problems might better be visualized as interacting objects or as interrelated words, concepts, and ideas.

Task 8. Indicate the paragraph where the following ideas are found in the text.

1. A program written in a procedural language contains the prescribed series of instructions.
2. An algorithm shows the steps how to manipulate the information to arrive at a solution.
3. There are different tools to express an algorithm.
4. To make sure that your algorithm works, you should verify it.

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5. Program instructions can be executed in order they are listed or some instructions can be skipped or repeated.
6. Many problems in banking industry lend themselves to the procedural approach.

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Task 9. Match up the words that are opposite in meaning.

sequential	parallel algorithm
downside	problem
to focus	written
solution	advantage
to deposit	to distract
linear algorithm	random
verbal	to withdraw

Task 10. Fill in the blanks choosing from the variants given.

1. During ... execution, the computer performs each instruction in the order it appears – the first instruction in the program is executed first, then the second instruction, and so on, to the last instruction in the program.

- a) random b) sequential c) direct d) reverse

2. The main ... of procedural paradigm is that it forces programmers to view problems as a series of steps, whereas some problems might better be visualized as interacting objects or as interrelated words, concepts, and ideas.

- a) benefit b) advantage c) drawback d) downside

3. The fact that algorithms are usually written in a format that is not specific to a particular programming language allows you ... on formulating a correct algorithm.

- a) to concentrate b) to focus c) to distract

4. The traditional approach to programming uses a procedural paradigm to conceptualize the ... a problem as a sequence of steps.

- a) problem b) decision c) solution

5. The algorithm for calculating checking account balances is the same, regardless of the amounts ... and....

- a) invested, placed, deposited b) drawn out, withdrawn, taken away

6. Procedural languages are well suited for problems that can be easily solved with ... algorithm.

- a) chain b) linear c) parallel

7. For complex programs, a walkthrough might consist of a... presentation to a group of programmers who can help identify logical errors in the algorithm and suggest ways to make the algorithm more efficient.

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a) written

b) graphical

c) verbal

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Task 11. Make three-word combinations using the words in columns and then fill in the gaps in the following sentences.

A: selection	B: account	C: instruction
self	step-by-step	algorithm
software	computer	balances
standardized	development	language
checking	control	process
linear	contained	structure

1. The procedural approach is best suited for problems that can be solved by following a
2. A ..., also referred to as a “decision structure” or “branch”, tells a computer what to do, based on whether a condition is true or false.
3. The first widely used ..., FORTRAN, with its procedural paradigm set the pattern for other popular procedural languages.
4. In banking industry, the algorithm for calculating ... is the same.
5. A program written in a procedural language typically consists of ... in a sequence that indicates how a task is to be performed or a problem is to be solved.
6. The algorithm is coded into instructions written in a programming language which a computer can implement in a later phase of the

Task 12. Discuss the following questions.

1. What is procedural programming?
2. What is an algorithm?
3. How do you write an algorithm?
4. What is the best way to express an algorithm?
5. How do you know if your algorithm is correct?
6. In what order does a computer perform program instructions?
7. Can the computer make decisions while it executes a program?
8. What are the most popular procedural languages?
9. What kinds of problems are best suited to the procedural approach?
10. What are the advantages and disadvantages of the procedural paradigm?

Task 14. Translate the following sentences into English.

1. Якщо вам вдалося написати програму, в якій транслятором не виявлено помилок, зверніться до системного програмісту - він виправить помилки в трансляторі.
2. У природі програмування лежить те, що немає співвідношення між "розмірами" самої помилки і проблем, які вона спричиняє.
3. Якщо налагодження - процес видалення помилок, то програмування має бути процесом їх внесення.
4. Машинна програма виконує те, що ви наказали їй робити, а не те, що б ви хотіли, щоб вона робила.
5. Складність програми зростає до тих пір, поки не перевищить здатності програміста.
6. Якби архітектори будували будівлі так, як програмісти пишуть програми, то перший залетівший жук зруйнував би цивілізацію.
7. Ніколи не виявляйте в програмі помилки, якщо ви не знаєте, що з ними робити далі.

WORD FORMATION

COMPOUND WORDS

There are three forms of compound words:

- the closed **form**, in which the words are melded together, such as firefly, secondhand, softball, childlike, crosstown, redhead, keyboard, makeup, notebook;
- the **hyphenated form**, such as daughter-in-law, master-at-arms, over-the-counter, six-pack, six-year-old, mass-produced;
- and the **open form**, such as post office, real estate, middle class, full moon, half sister, attorney general.

Exercise 1. With a handful of exceptions, compounds created by the addition of a prefix are not hyphenated. Read and translate the following words.

antisocial, binomial, biochemistry, coordinate, counterclockwise, extraordinary, infrastructure, interrelated, intramural, macroeconomics, metaphysical, microeconomics, midtown, minibike,

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multicultural, neoromantic, nonviolent, overanxious, postwar, preconference, pseudointellectual, reunify, semiconductor, socioeconomic, subpar, supertanker, transatlantic, unnatural, underdeveloped

Exceptions include

compounds in which the second element is capitalized or a number:

anti-Semitic, pre-1998, post-Freudian

compounds which need hyphens to avoid confusion

un-ionized (as distinguished from unionized), co-op

compounds in which a vowel would be repeated (especially to avoid confusion)

co-op, semi-independent, anti-intellectual (but reestablish, reedit)

compounds consisting of more than one word

non-English-speaking, pre-Civil War

compounds that would be difficult to read without a hyphen

pro-life, pro-choice, co-edited

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Exercise 2. Read and translate the words. Mind the spelling of these words.

2-year education	high-level officials
one-week vacation	Italian-American
African American	Italian-American club
Air Force	jack-in-the-box
all-city tournament	lifelike
attorney general	light year
blood pressure	mayor-elect
blue-green dress	salesperson
bull's-eye	secretary-treasurer
database	stockbroker
daughter-in-law	T-square
English-speaking person	threefold
ex-wife	up-to-the-minute
first-rate accommodations	V-formation
football	vice president
grandmother	well-made clothes
grant-in-aid	worldwide inflation
great-aunt half sister	X-ray

With a series of nearly identical compounds, we sometimes delay the final term of the final term until the last instance, allowing the hyphen to act as a kind of place holder, as in

- The third- and fourth-grade teachers met with the parents.
- Both full- and part-time employees will get raises this year.
- We don't see many 3-, 4-, and 5-year-old children around here.

Exercise 3. Study the most popular compound computer terms. Translate them into Ukrainian.

GUIDELINES ON THE CURRENT TREATMENT OF COMPOUND COMPUTER TERMS

- In the following list, the two-word forms (shown first) are still more common, but the one-word forms are starting to take hold.

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file name OR: filename

screen saver OR: screensaver

home page OR: homepage

spell checker OR: spellchecker

menu bar OR: menubar

voice mail OR: voicemail

• **In the following list, the one-word forms (shown first) are more common, but the spaced or hyphenated forms are still being used.**

barcode OR: bar code

logoff (n.) OR: log-off

handheld OR: hand-held

BUT: log off (v.)

hardwired OR: hard-wired

logon (n.) OR: log-on

offline OR: off-line

BUT: log on (v.)

offscreen OR: off-screen

touchpad OR: touch pad

online OR: on-line

touchscreen OR: touch screen

onscreen OR: on-screen

wordwrap OR: word wrap

• **c. In the following list, the two-word forms (shown first) are more common, but the hyphenated forms (which follow the standard rules) are also being used.**

dot matrix printers OR: dot-matrix printers

local area networks OR: local-area networks

wide area networks OR: wide-area networks

• **In the following list, the hyphenated forms (shown first) are more common, but the solid or spaced forms (if given) are used in materials aimed at industry insiders.**

dot-com drop-down menu OR: dropdown menu

pop-up window pull-down menu OR: pulldown menu

read-only memory ink-jet printer OR: inkjet printer

write-only files random-access memory OR: random access memory

• **The following compound words are solid except in a few special cases.**

backup (n. & adj.)

lookup (n.)

trackball

BUT: back up (v.)

BUT: look up (v.)

trackpad

Desktop

newsgroup

uplink (n. & v.)

downlink (n. & v.)

newsreader

upload (n. & v.)

download (n. & v.)

BUT: news server

userid (derived from user ID)

keyword

palmtop

whois (derived from who is)

laptop

toolbar

workstation

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Compound words beginning with Web are usually two words.

Web site Web server BUT: Webmaster

Web page Web browser Webcasting

Web surfer Web directory Webzine

Web index Web clipping Weblog

Web cam Web terminal Webinar

NOTE: The term Web site is still most commonly written as two words with a capital W. However, along with a few other Web compounds, it has started to appear as a solid word without an initial cap (website). In order to maintain a consistent style, it is better to retain the capital W until a majority of these terms (such as the World Wide Web and the Web) lose their initial cap as well.

- **Compound words beginning with the prefix e are usually hyphenated.**

e-banking	e-credit	e-tail	OR: e-tailing
e-book	e-currency	e-text	
e-business	e-dress (an e-mail address)	e-wallet	
e-cash	e-lance	BUT: eBay	
e-commerce	e-learning	eDonkey	
e-economy	e-money	eHarmony	

The term e-mail can still be seen as E-mail (the original form of the word) and also as email (without the hyphen), but the hyphenated form is still the one most commonly used. In order to maintain a consistent style, it is better to retain the hyphen in e-mail until many of the other e words start to drop the hyphen as well.

- **The prefix i (which refers to the Internet) appears both with and without a hyphen when it is attached to a base word.**

iPod	i-Lighter
iMac	i-Newswire
iTunes	i-flex solutions
iPhone	i-Safe
iTools	BUT: I-80 (here I stands for Interstate)

- **The prefix m (which refers to the use of mobile phones) is usually followed by a hyphen when it is attached to a base word.**

GRAMMAR REVIEW

Exercise 4. Open the brackets and give the comparative or superlative degree of the following adjectives and adverbs.

1. That is (incredible) story I have ever heard. 2. It is not always (bright) students who do well in tests. 3. Terylene shirts are (hard) wearing, but cotton shirts are much (comfortable). 4. Which is (deep), Lake Michigan or Lake Superior? 5. She is far (self-confident) than she used to be. 6. (tall) man among the guests is a basketball player. 7. I like both of them, but I think Kate is (easy) to talk to. 8. Most people are (well off) than their parents used to be. 9. She has a lot to be thankful for; but (sad) thing of all is that she does not realize it. 10. I want to buy a car – (powerful) one you have. 11. You look a lot (sad) than you did last time I saw you. 12. There is nothing (irritating) than locking yourself out of your own house. 13. Both roads lead to the city centre, but the left-hand one is probably a bit (short) and (direct). 14. As I get (old), I notice the policemen seem to be getting (young). 15. The boys in our school are much (good-looking) and a lot (good) at football than the boys in other schools in the town.

Exercise 5. Put the adverbs in the right places.

1. You are right. (absolutely) 2. I got to bed at twelve. (always) 3. Do you go to parties? (ever) 4. You can be sure of anything. (never) But you can trust me. (certainly) 5. They meet every weekend. (usually) 6. My friends invite me to the theatre. (occasionally). 7. I have had such a shock! (never) 8. They met again. (never) 9. I remember meeting those people. (definitely). 10. Something is happening. (definitely) 11. Does he tell you the truth? (always) 12. He tries to do his best. (always) 13. He talks sensibly. (never) 14. He's late. (always) He was late for his own wedding. (even) 15. Can you be sincere? (ever) 16. Expensive remedies are useful (always), if not to the sick, then to the chemist. 17. We fans give up hope. (never) 18. Are you all right? (really)

Exercise 6. Solve these problems.

1. 47 and 34 is ____ 2. 33 multiplied by 4 is ____ 3. 45 times 4 is ____ 4. 112 minus 45 ____ 5. 90 divided by 6 is ____ 6. Divide 66 by 11, multiply by 5, add 20, and subtract 18; you've got ____

Exercise 7. Put each verb in brackets into an appropriate verb form.

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Jim (1)..... (not/look) forward to the exam. He (2)(study) for the past two months, and still (3).....(not/feel) sure that he (4).....(know) even half of what he should know. He (5)..... (question) his teachers repeatedly about the material that (6).....(appear) on past exams, but he still (7).....(not/be) convinced that anything he (8).....(learn) (9).....(be) relevant to this year's exam. He (10).....(still/study) at seven o'clock in the morning on the day of the exam; he (11).....(revise) all night long, and (12).....(feel) exhausted. In fact he (13)..... (be) so tired that he (14).....(fall) asleep in the middle of writing the exam, and (15).....(wake up) only just in time to finish it.

Exercise 8. Correct the mistakes.

1 The new regulations will been announced in September. 2 Do they have their dogs walking every day? 3 She has the piano tune twice a year. 4 The letters are be posted first thing tomorrow morning. 5 When Mr Cobert arrived at the office, he realized his computer has been stolen. 6 The photographs will already been developed. 7 It's worth having the car servicing. 8 She is expects to win the November election. 9 They are having their garage painted when I called. 10 Your teeth is be cheked every six months.

Exercise 9. Choose the right variant.

1. I'll leave some sandwiches in the fridge in case you are hungry when you (*come*) back.
2. They (*could, had, must*) to put off their trip because their daughter suddenly had fallen ill.
3. Slow down. You (*go*) too fast."
4. Oxford is (*a, the, -*) most popular tourist attraction (*in, at*) Britain after London and Stratford-on-Avon.
5. I'm sure we (*meet*) many years ago, but I (*not, remember*) where it was.
6. Europe and America (*separate*) by the Atlantic Ocean.
7. He is trying to find (*a, the, -*) job, but there isn't (*much, many*) work available at present.
8. She said that she (*try*) to ring up her mother several times the previous day.
9. We have to pick the fruit very early in the morning; otherwise we (*can't, mustn't, may not*) get it to the market in time.
10. Nobody (*use*) this room for ages.
11. Tom Smith (*write*) a book and Brown and Co (*publish*) it last month.

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12. Tomorrow the office (*clean*) in the evening after the staff leave.
13. We shook ... hands with ... host, (a, *the*, -)
14. Are French children obliged to go to (*a, the*, -) school (*on, at*) Sundays?
15. There will always be a conflict between ... old and ... young. Young people want ... changes but ... old people want ... things to stay ... same, (*a, the*, -)
16. He was standing there in the rain and (*not, have*) even the sense to put up his umbrella.
17. (*May, should, must*) I use your phone to ring for a taxi? Oh, there's no need (*for, to, at*) it, my son (*drive*) you home.
18. When we (*take*) our exams, we'll have a holiday.
19. People believed that he (*kill*) by terrorists.
20. He (*use*) to spend a lot of time in his library.

WRITING

Read the program below and the text, then complete the sentences which follow.

NOTES: 1) *comment lines* – строка комментария; 2) *parentheses* – круглые скобки; 3) *braces* – фигурные скобки; 4) *declaration statement* – оператор объявлений; 5) *assignment statement* – оператор присваивания; 6) *variable name* – имя переменной; 7) *function statement* – функциональный оператор, оператор функции; 8) *semicolon* – точка с запятой; 9) *a must* – необходимость, потребность, требование; 10) *to terminate* – завершать, заканчивать; *terminator* – завершающая запись; 11) *blank line* – пустая строка; 12) *to span* – охватывать, изменять

```
/*CALCULATE AVERAGES */
main ( )
{
    float a, b, c, d, average;

    printf ("Enter three numbers: ");
    scanf ("%f %f %f", &a, &b, &c);
    d=a+b+c;
    average=d/3.0;
    printf ("The average is %f", average);
```

}

Comment Lines

A C source program consists of statements and comment lines. Comment lines are enclosed by the characters /* (at the start of the comment) and */ (at the end of the comment).

The Function main {}

Every C program must have a function called main which must appear only once in a program. The parentheses following the word main must be present, but there must be no parameters included. The main part of the program is enclosed within braces { }, and consists of declaration statements, assignment statements, and other C functions. In the above program there are six statements within the braces: a declaration statement (the first statement of the main program starting with the word float), two assignment statements (the fourth and fifth statements starting with the variable names d and average), and three function statements, two to print information on the screen and one to scan the keyboard for input.

As C is free-form language, the semicolon (;) at the end of each line is a must. It acts as a statement terminator, telling the compiler where an instruction ends. Free form means that statements can be identified and blank lines inserted in the source file to improve readability, and statements can span several lines. However, each statement must be terminated with a semicolon. If you forget to include the semicolon, the compiler will produce an error, indicating the next line as the source of the error. This can cause some confusion, as the statement objected to can be correct, yet as a syntax error is produced.

Variables and the Declaration Statement

A variable is a quantity that is referred to by name, such as a, b, c, d and average in the above program. A variable can take on many values during program execution, but you must make sure that they are given an initial value, as C does not do so automatically. However, before variables can be used in a program, they must be declared in a type declaration statement.

Exercise. Fill in the gaps to complete the sentences.

1. The Function ... must appear only once in a program. 2. /* CALCULATE AVERAGES*/ is a ... line. 3. The statement float a, b, c, d, average; is a ... statement. 4. The program below contains ... function statements. 5. The assignment statements are on lines ... and 6. The main part of the program is enclosed within 7. Each line of any C program must end with a ..., which acts as a statement 8. If

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you forget to include the correct punctuation, the ... will produce a ... error. 9. A quantity referred to by name is known as a 10. A ... statement must be used to declare variables.

COMPUTER SOFTWARE. IT CERTIFICATION

Vocabulary Bank Unit 16

Task 1. Read, write the translation and learn the basic vocabulary terms:

- | | |
|--|---------------------------------|
| 1. arbitrary distinction | 24. Integrated development |
| 2. certification marks | Environment (IDE) |
| 3. Certified Software Quality | 25. interpreters |
| Engineer by American Society for Quality | 26. Joint Commission |
| 4. Certified Software Test | 27. licensure |
| Professional | 28. linkers |
| 5. CISSP (Certified Information | 29. mainboards |
| Systems Security Professional) | 30. Microsoft Certified Systems |
| 6. competently | Engineer (MCSE) |
| 7. compilers | 31. middleware |
| 8. container term | 32. modular approach |
| 9. cyber security certification | 33. object code |
| 10. debuggers | 34. ordered sequence |
| 11. digital signatures | 35. particular |
| 12. distributed systems | 36. perceptible by touch |
| 13. education-based certification | 37. pertaining |
| 14. electrically programmable | 38. preceding state |
| memory devices | 39. productive tasks |
| 15. exam-based certification | 40. quality assurance |
| 16. file extension | 41. software product fit |
| 17. firmware | 42. subsets |
| 18. FPGA configuration | 43. testware |
| 19. hardware carriers | 44. to be blurred |
| 20. Help documentation | 45. to be compiled |
| 21. independent assessment | 46. to be launched |
| 22. instructor-led sessions | 47. to encompass |
| 23. intangible | 48. to unburden |

49. user-executable files

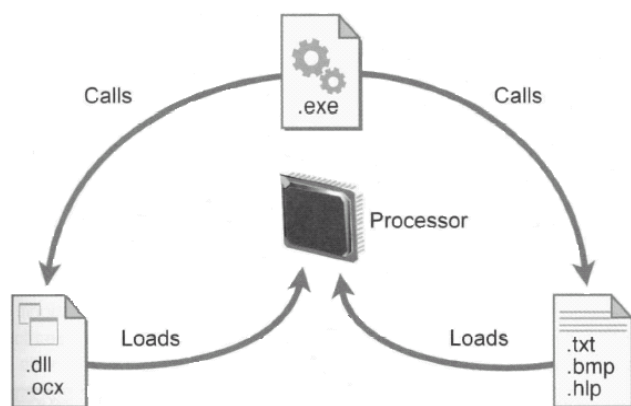
50. whim

UNIT 16. COMPUTER SOFTWARE. IT CERTIFICATION. LANGUAGE SKILLS DEVELOPMENT.
TEXT 16 A. SOFTWARE: THE INSIDE STORY

Computer software determines the types of tasks a computer can help you accomplish. Some software helps you create documents; while other software helps you edit home videos, prepare your tax return or design the floor plan for a new house.

The instructions that tell a computer how to carry out a task are referred to as a computer program. These programs form the software that prepares a computer to do a specific task, such as document production, video editing, graphic design or Web browsing. In popular usage the term “software” refers to one or more computer programs and any additional files that are provided to carry out a specific type of task. Whether it’s on a CD or downloaded from the Web, today’s software is typically composed of many files. You might be surprised by the number of files that are necessary to make software work. At least one of the files included in a software package contains an executable program designed to be launched, or started, by users. On PCs, these programs are stored in files that typically have .exe file extensions and are referred to as “executable files”. Other files supplied with a software package contain programs that are not designed to be run by users. These “support programs” contain instructions for the computer to use in conjunction with the main user-executable file. A support program can be activated by the main program as needed. Support programs often have file extensions such as .dll and .ocx.

In addition to program files, many software packages also include data files. As you might expect, these files contain any data that is necessary for a task, but not supplied by the user, such as Help documentation. The data files supplied with a software package sport file extensions such as .txt, .bmp, and .hlp. (see fig. 2):



The use of a main user-executable file plus several support programs and data files offers a great flexibility and efficiency for software developers. Support programs and data files from existing programs can usually be modified by developers for other programs without changing the main executable file. This modular approach can reduce the time required to create and test the main executable file, which usually contains a

long and fairly complex program. This modular approach also allows software developers to reuse their support programs in multiple software products and adapt preprogrammed support modules for use in their own software. Modular programming techniques are of interest mainly to people who create computer programs; however these techniques affect the process of installing and uninstalling software. It

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is important, therefore, to remember that computer software consists of many files that contain user-executable programs, support programs, and data.

Software is categorized as application software or system software. The primary purpose of application software is to help people carry out tasks using a computer. In contrast, the primary purpose of system software – your computer's operating system, device drivers, programming languages, and utilities – is to help the computer to carry out its basic operating functions.

Computer software or just software is a general term used to describe the role that computer programs, procedures and documentation play in a computer system. The term includes:

- Application software, such as word processors which perform productive tasks for users.
- Firmware, which is software programmed resident to electrically programmable memory devices on board, mainboards or other types of integrated hardware carriers.
- Middleware, which controls and co-ordinates distributed systems.
- System software such as operating systems, which interface with hardware to provide the necessary services for application software.
- Software testing is a domain dependent of development and programming.
- Software testing consists of various methods to test and declare a software product fit before it can be launched for use by either an individual or a group.
- Testware, which is an umbrella term or container term for all utilities and application software that serve in combination for testing a software package but not necessarily may optionally contribute to operational purposes.

As such, testware is not a standing configuration but merely a working environment for application software or subsets thereof.

Software includes things such as websites, programs or video games that are coded by programming languages like C or C++. "Software" is sometimes used in a broader context to mean anything which is not hardware but which is used with hardware, such as film, tapes and records.

Computer software is often regarded as anything but hardware, meaning that the "hard" are the parts that are tangible while the "soft" part is the intangible objects inside the computer. Software encompasses an extremely wide array of products and technologies developed using different techniques like programming languages, scripting languages, microcode, or an FPGA configuration.

The types of software include web pages developed by technologies like HTML, PHP, Perl, JSP, ASP.NET, XML, and desktop applications like Open Office, Microsoft Word developed by technologies like C, C++, Java, or C#.

Software usually runs on underlying software operating systems such as the Linux or Microsoft Windows. Software also includes video games and the logic systems of modern consumer devices such as automobiles, televisions, and toasters.

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Computer software is so called to distinguish it from computer hardware, which encompasses the physical interconnections and devices required to store and execute (or run) the software. At the lowest level, software consists of a machine language specific to an individual processor. A machine language consists of groups of binary values signifying processor instructions that change the state of the computer from its preceding state. Software is an ordered sequence of instructions for changing the state of the computer hardware in a particular sequence. It is usually written in high-level programming languages that are easier and more efficient for humans to use (closer to natural language) than machine language. High-level languages are compiled or interpreted into machine language object code. Software may also be written in an assembly language, essentially, a mnemonic representation of a machine language using a natural language alphabet. Assembly language must be assembled into object code via an assembler.

The term "software" was first used in this sense by John W. Tukey in 1958. In computer science and software engineering, computer software is all computer programs. The theory that is the basis for most modern software was first proposed by Alan Turing in his 1935 essay "Computable numbers with an application to the Entscheidungsproblem".

User Application Operating system Hardware

This is a structure showing where Operating System is located on generally used software systems on desktops. Practical computer systems divide software systems into three major classes: system software, programming software and application software, although the distinction is arbitrary, and often blurred.

System software

System software helps run the computer hardware and computer system. It includes a combination of the following:

- device drivers;
- operating systems;
- servers;
- utilities;
- windowing systems.

The purpose of systems software is to unburden the applications programmer from the often complex details of the particular computer being used, including such accessories as communications devices, printers, device readers, displays and keyboards, and also to partition the computer's resources such as memory and processor time in a safe and stable manner. Examples are- Windows XP, Linux, and Mac OS X.

Programming software

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Programming software usually provides tools to assist a programmer in writing computer programs, and software using different programming languages in a more convenient way. The tools include:

- compilers
- debuggers
- interpreters
- linkers
- text editors

An Integrated development environment (IDE) is a single application that attempts to manage all these functions.

Application software

Application software allows end users to accomplish one or more specific (not directly computer development related) tasks. Typical applications include:

- industrial automation
- business software
- computer games
- quantum chemistry and solid state physics software
- telecommunications (i.e., the internet and everything that flows on it)
- databases
- educational software
- medical software
- military software
- molecular modeling software
- image editing
- spreadsheet
- Word processing
- Decision making software

Application software exists for and has impacted a wide variety of topics.

Task 2. Discuss the following questions.

1. What does the term “computer software” mean?
2. What does this term include?

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3. What tasks does application software perform?
4. Is there any difference between computer software and hardware?
5. Who and when invented the term “software”?
6. Practical computer systems divide software systems into three major classes. What are they?
7. What is the purpose of systems software (programming software, application software)?
8. What kinds of files are included in a typical software product?
9. Why does software require so many files?
10. How does a programmer “write” software?
11. How does a computer process a program?
12. How is software categorized?

Task 3. Mark the following statements as True or False.

1. Computer software typically consists of many files that contain user-executable programs, support programs and data files.
2. The main executable file provides the primary set of instructions for the computer to execute and calls various support programs and data files as needed.
3. Support programs often have file extensions such as .txt, .bmp, and .hlp.
4. Individuals often write software for their personal computers.
5. High-level languages are fairly easy to test and modify.
6. A compiler converts high-level instructions into a new file containing machine language instructions.

Task 4. Fill in the blanks choosing from the variants given.

1. The instructions that tell a computer how to ... a task are referred to as a computer program.
a) require b) create c) carry out d) define
2. A programming language ... tools for creating a lengthy list of instructions called source code.
a) prefer b) refer to c) avoid d) provide

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3. As a program is running an interpreter converts one instruction... into machine language.

- a) at a time b) at the same time c) all the time

4. eVidpro.exe is a compiled program, so its instructions are immediately ... by the processor.

- a) provided b) modified c) executed d) adapted

5. Software includes menus, buttons, and other control objects that are ... by a programmer, who designates their properties.

- a) converted b) defined c) reduced d) purchased

6. The software that provides the computer with ... for each use is called application software.

- a) approaches b) efficiency c) utilities d) instructions

Task 5. Make two-word expressions by combining words from two lists: A and B. Then fill in the gaps in the following sentences.

A:	executable	B:	language
	application		code
	machine		file
	source		extensions
	file		software
high-level	instructions		

1. When using a Windows PC, you can start an ... by clicking its icon, selecting it from a Start menu, or entering its name in the Run dialog box.

2. Computer software can be divided into two major categories: ... software and system software.

3. The data files supplied with a software package sport ... such as .txt, .bmp, .hlp.

4. A programming language provides tools for creating a lengthy list of instructions called ...

5. A simple instruction to add two numbers becomes a long series of 0s and 1s in a...

6. A compiler converts ... into a file containing machine language instructions.

Task 6. Fill in the gaps in the text.

Software consists of computer ____ (programs/utilities) and data files that work together to provide a computer with the ____ (instructions/approaches) and ____ (data/tools) necessary for carrying out a specific type of task, such as document production, video editing, graphic design, or Web browsing.

To create a software ____ (efficiency/environment), a programmer must define the ____ (approaches/properties) for each element in the environment, such as where an object appears, its shape, its color, and its behavior. Most programmers today prefer to use ____ (high-level/machine) languages. A computer's microprocessor understands only ____ (machine/high-level) language, however, so a program that is written in a high-level language must be ____ (avoided/compiled) or interpreted before it can be ____ (processed/modified).

Task 7. Look back at the article. Find the adjectives which mean the following. The first and the last letters are given:

- 1) perceptible by touch; definite, clearly intelligible, not elusive or visionary (t.....e);
- 2) consisting of two parts, dual (b....y);
- 3) capable of being numbered or estimated (c.....e);
- 4) based on random choice or whim; capricious; despotic (a.....y);
- 5) of or for or done by soldiers of the armed forces (m.....y).

Task 8. Which of these statements are true? Correct the false ones.

1. Middleware controls and co-ordinates distributed systems.
2. System software provides the necessary services for application software.
3. Testware performs productive tasks for users.
4. Software testing can be launched for use by either an individual or a group.
5. Computer software is often regarded as hardware.
6. Software includes video games, websites, programs and logic systems of modern consumer devices.

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7. Systems software unburdens the applications programmer from the often complex details of the particular computer being used.
8. Programming software assists a programmer in writing computer programs.
9. Industrial automation, educational software and business software are examples of application software.

TEXT 16B. IT CERTIFICATION

Certification refers to the confirmation of certain characteristics of an object, person, or organization. This confirmation is often, but not always, provided by some form of external review, education, or assessment.

One of the most common types of certification in modern society is professional certification, where a person is certified as being able to competently complete a job or task, usually by the passing of an examination.

There are two general types of professional certification: some are valid for a lifetime, once the exam is passed. Others have to be recertified again after a certain period of time. Also, certifications can differ within a profession by the level or specific area of expertise they refer to. For example, in the IT Industry there are different certifications available for software tester, project manager, and developer. Similarly, the Joint Commission on Allied Health Personnel in Ophthalmology offers three certifications in the same profession, but with increasing complexity.

Certification does not refer to the state of legally being able to practice or work in a profession. That is licensure. Usually, licensure is administered by a governmental entity for public protection purposes and a professional association administers certification. Licensure and certification are similar in that they both require the demonstration of a certain level of knowledge or ability.

Another common type of certification in modern society is product certification. This refers to processes intended to determine if a product meets minimum standards, similar to quality assurance.

In first-party certification, an individual or organization providing the good or service offers assurance that it meets certain claims. In second-party certification, an association to which the individual or organization belongs provides the assurance. Third-party certification involves an independent

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assessment declaring that specified requirements pertaining to a product, person, process or management system have been met.

For software testing the certifications can be grouped into exam-based and education-based. Exam-based certifications:

For this there is the need to pass an exam, which can also be learned by self-study: e.g. for International Software Testing Qualifications Board Certified Tester by the International Software Testing Qualifications Board or Certified Software Tester by QAI or Certified Software Quality Engineer by American Society for Quality. Education-based certifications are the instructor-led sessions, where each course has to be passed, e.g. Certified Software Test Professional or Certified Software Test Professional by International Institute for Software Testing.

Types of certification

- Academic degree
- Professional certification
- Product certification and certification marks
- Cyber security certification
- Digital signatures in public-key cryptography
- Music recording sales certification, such as "Gold" or "Platinum"
- Film certification, also known as Motion picture rating system
- Professional certification (computer technology)
- Laboratory Certification and audits

Network+

Network+ exam by Comptia is designed specifically for the IT professional who have more than nine months experience in the computer network administration. The code of the Network+ exam is N10-003 and it was first introduced in 1997. Till the mid of May 2005, according to Comptia's announcement, more than 150,000 were Network+ exam certified. Network+ is an entry level exam and it paves the way for the IT professionals in their quest for the more advance certifications like MCSE, CCNA, CCNP etc. There are not prerequisites for this certification. Comptia recommends that you must have the A+ certifications.

Network+ certification is well suited and designed for the network administrators. The topics covered in this exam are media and topologies, standards, protocols, network support and implementations. The Network+ certification shows the candidate's knowledge of the basic networking

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fundamentals. Like other Comptia's certifications, the Network+ certification will not be expired once it is achieved.

Security+

Security+ certification is designed for the IT professionals who have 2 years of experience in the network or systems administration and having the main focus on the security. The code of this exam is SY0101 and it was introduced by Comptia in 2002. Security+ is an entry level test for the most advanced tests like ISC2, CISSP and the SANS. As well as it can also be used as the basis for the some Microsoft certifications. Security+ certification is well suited for the network and security administrators and professionals.

The common topics included in this exam are designing security for a network, security infrastructure, cryptography, authentication, access control, internal and external network attacks and the dealing with the company's security.

Security+ certifications shows the candidates knowledge of these things and it prepares the candidate to such level that he/she competes with the security breaches and finds some good alternative ways that are helpful in reducing the cost of a security breach. Once this certification is achieved it will never expire just like the other certifications of Comptia.

Microsoft MCSE

Microsoft Certified Systems Engineer (MCSE) is designed for the professionals who are some requirements of analyzing the business, designing, making infrastructure, and implementing the securities at certain levels. MCSE is based on the Microsoft Windows 2000 platform and Windows NT platform (though many of the NT exams have been obsolete now). The Windows 2003 server has been merged into the MCSE exam.

MCSE certification does not retire but the newer versions are released by the Microsoft after few years. So the candidate has to be upgraded himself/herself with these latest exams. There are no specific requirements for the MCSE certifications. Those candidates who have one year experience in managing a computer network, network or desktop operating systems, will be considered suitable for this exam. Job descriptions and roles including after achieving the MCSE are Systems engineer, Network Engineer, Network Consultant, and Systems Analyst.

There is a 7 exams pass requirement for this certification and the candidates how are holding the MCSE 2000, are required to give 2-upgrade exams. By passing these exams you can achieve Windows Server 2000 MCSE exam.

Cisco CCNA

Cisco CCNA certification (Cisco Certified Network Associates) is an introductory level exam. The CCNA exam by Cisco systems was designed for the candidates who can install, configure and do administrator of the LAN (Local Area Network) or WAN (Wide Area Network) networks. CCNA is a

UNIT 16. COMPUTER SOFTWARE. IT CERTIFICATION. LANGUAGE SKILLS DEVELOPMENT. prerequisite for the some higher level certifications like CCNP and CCDP. The CCNA exam is valid for the three years. In 2003, Cisco has introduced the two paths of the CCNA exam (INTRO and ICND). Job role for the individuals who are CCNA certified are network administration, system administration and network consultant etc.

CCNP

CCNP (Cisco Certified Network Professional) exam is designed for the candidates who can install, configure and troubleshoot a LAN/WAN network of 100 to 500 computers. The CCNP certification has its prerequisites such as CCNP certification. The topics included in this certification are converged networks, security, VPN, quality of service and broadband technologies like VOIP, DSL, Cable net etc. There is a four, three and two exams path to the CCNP. The CCNP exam is valid for the three years. The job role for a CCNP certified is Network administration, LAN administration, WAN administrator and Network consultant.

ISC2 CISSP

CISSP (Certified Information Systems Security Professional) is introduced by ISC2. The ISC2 is a not profit organization and it manages the CISSP exams. A CISSP exam is designed for the candidates who are having minimum four years of experience in the field of Information systems. A bachelor and a Master degree separately, can be a substitute of the one required years for this exam. Also, some lower level certifications like SSCP (Systems Security Certified Practitioner) is also recommended before the CISSP exam.

The CISSP exam is aimed for the IT professionals who want to be Information security professionals, systems security professionals and network security professionals.

Task 9. Discuss the following questions:

1. What is one of the most common types of certification in modern society ?What does it mean?
2. How many general types of certification do you know?
3. What is the main difference between certification and licensure?
4. How can the certifications for software testing be grouped?
5. What is exam-based certification?
6. What is education-based certification?
7. When was Network+ introduced? Whom was it designed?
8. How many years of experience must you have to pass Security+?
9. What does Security+ certifications show?

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10. What Microsoft Certified Systems Engineer (MCSE) was designed for?
11. Are there specific requirements for the MCSE certifications?
12. The CCNA exam is valid for five years, isn't it?
13. What is the aim of the CISSP exam?

LANGUAGE SKILLS DEVELOPMENT

Exercise 1. Put the verb in brackets into the correct form and translate the sentences

1. The instructions (to be recorded) in the order in which they are to be carried out. 2. Many new branches of industry (to be developed) in our country since World War D. 3. The concept of the stored program (to be worked out) by J. Neuman in 1945. 4. The constituent parts of the computer (to be called) hardware. 5. A new program (to be compiled) when I came. 6. All these calculations (to be done) by 5 o'clock yesterday. 7. The information (to be collected) by the end of the next week. 8. This examination (to be taken) tomorrow. 9. Your papers (to be typed) now. Wait a minute. 10. A new input device (to be discussed) when we came. 11. A new model of the printer (to be shown) tomorrow. 12. Microcomputers (to be applied) since the 1970s. 13. Only one branch of a program (to be selected) on each occasion. 14. "Connector" symbols (to be used) to show the exit to or the entry from another point in the same flowchart.

Exercise 2. Translate the sentences paying attention to the words in the table below

Запам'ятайте наступні словосполучення та їх еквіваленти:

to give consideration to = to consider - розглядати

to make allowance for = to allow for - враховувати, робити поправку на

to make an attempt = to attempt - намагатися, робити спробу

to make contribution to = to contribute to - вносити вклад

to make mention of = to mention - згадувати про

to make reference to = to refer to - посилатися на

to make use of = to use - використовувати (ся)

to place emphasis on = to emphasize - робити упор на, підкреслювати

to take advantage of = to use - скористатися, використовувати

to take care of = to care - стежити, піклуватися

to take note (notice) of = to pay attention to - звертати увагу на

to take steps + інфінітив = вживати заходів, робити кроки.

1. In his book emphasis is placed on the localization problem. 2. Reference was made of his earlier publication. 3. Mention is made of an improved version of this method. 4. An important contribution was made to the study of this phenomenon. 5. Care must be taken to assure that an even number of logical inversions occur. 6. An attempt was made to redefine the previous year's budget. 7. In their discussion no account was taken of the environmental conditions. 8. Advantage is often taken of the effect of temperature on solubility. 9. In this chapter detailed consideration is given to digital computers. 10. In deriving these formulas no allowance was made for temperature increase. 11. In the following notice is chiefly taken of the former point. 12. Special attention has been called to the research work. 13. Steps are taken to diminish friction.

Exercise 3. Translate the sentences paying attention to the meaning of the preposition BY

Деякі способи перекладу прийменника by:

1) шляхом, за допомогою;

2) до - в основному при наявності дієслова у формі Perfect;

3) написаний, складений, проведений - якщо by вживається перед власними іменами;

4) на - якщо by вживається з дієсловами типу to divide 'розділити', (to multiply 'помножити', to increase 'збільшувати');

5) by не перекладається, коли передає відносини, що виражаються в українській мові орудним відмінком.

Наприклад:

The necessary amount of energy is provided by a mechanical system.

By 1930 they had succeeded in building the first differential analyzer.

Six divided by three is two.

Необхідна кількість енергії забезпечується за допомогою механічної системи.

До 1930 року їм вдалося побудувати перший диференціальний аналізатор.

Шість, поділене на три, дорівнює двом.

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1. You can judge (tell) a man by the company he keeps. 2. Man can not live by bread alone. 3. I have a lot of textbooks by this author. 4. Peace can not be kept by force. It can only be achieved by understanding. 5. You may know by a handful the whole sack. 6. By medicine life may be prolonged, yet death will seize the doctor too. 7. The bull must be taken by the horns. 8. Experience is achieved by industry. 9. Our solution resembles a little the solution by Brambilla.

Exercise 4. Translate the sentences paying attention to the verbs with prepositions.

Запам'ятайте значення наступних дієслів з прийменниками:

account for - пояснювати, обґрунтовувати, бути причиною;

agree upon (on) - договір, умови;

arrive at - приходити до (висновком, рішенням);

bring about - викликати, здійснювати;

deal with - розглядати, розбирати, займатися, стосуватися;

depart from - відхилятися, ухилятися від;

do away with - покінчити з, відмовитися від;

insist on (upon) - наполягати на;

refer to - посилатися на, згадувати про, направляти до, відсилати до;

rely on (upon) - покладатися на;

send for - посилати за;

speak, talk about (of) - говорити про;

subject to - піддавати (дії, впливу);

think about (of) - думати про.

1. A number of scientific experiments in the near earth region has been referred to in that article. 2. Manual and automatic aerodynamic control during reentry will be spoken of at the next scientific conference. 3. Old traditions cannot be easily done away with. 4. As a consequence of the very high beam velocity, a large amount of waste energy must be disposed of. 5. The extremely high voltage of the transformer in the case under consideration was spoken of at the conference. 6. The method that has been introduced by that group of engineers will be dealt with in the next chapter. 7. New methods for measuring the results of the experiments are being in search of. 8. The detailed description of the speed indicator is insisted upon by the chief engineer. 9. For the first time the problem under discussion was referred to last year. 10. The changes taking place are not easily accounted for. 11. The sequence of

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10. I'm going to retire when I_____60.

- a) will be c) have been
- b) would be d) am

11. It began to rain just after the party_____.

- a) had started c) started
- b) has started d) starts

12. I'm afraid we can't serve_____before six o'clock.

- a) beer c) some beer
- b) the beer d) no beer

13._____boy will admit that he caused all the damage.

- a) neither c) none
- b) both d) several

14. It was difficult at first to be used_____every day.

- a) at working c) to work
- b) to working d) in working

15. He is supposed_____but I don't think he will.

- a) come c) to come
- b) coming d) 'll come

16. If we had had a map we_____lost.

- a) wouldn't get d) didn't get
- b) would get d) got

17. You don't fancy_____out when it is raining.

- a) come c) to come
- b) came d) coming

18. Finally we succeeded_____finding a good flat at a reasonable price.

- a) on b) in
- c) for d) of

19. When he came to America he_____getting up earlybecause of the jet lag.

- a) wasn't used to c) used
- b) didn't use to d) used to

20. I think it's time the government_____something about pollution.

- a) to do c) did
- b) doing d) to have done

21. The party was great. We enjoyed_____very much.

- a) ourselves c) us

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- b) themselves d) them

22. That man over there, _____ name I don't remember, is a politician.

- a) what c) which
b) that d) whose

23. This is _____ difficult decision I've had to make for years.

- a) most c) the more
b) more d) the most

24. _____ her illness, she decided to go to school.

- a) in spite c) however
b) although d) despite

25. If you don't know a word, you can _____ in the dictionary.

- a) see it up c) make it up
b) follow it up d) look it up

WRITING

Use the Web and other resources to compile a list of the software used in your current or future career field. Are there standard packages that job applicants need to know how to use? If so, what can you find out about those packages on the Web. Also, make a list of the software packages you are familiar with. Use the software classification system. As you consider your career goals for the next year, list at least five additional software packages you would like to learn. Explain why they would be helpful.

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WEB DESIGN

Vocabulary Bank Unit 17

Task 1. Memorize the following words and word-combinations:

- | | | |
|----------------------------|--------------------------------------|----------------------|
| 1. aesthetic | reduction | |
| 2. assumption | 28. relief | |
| 3. bland slogans | 29. rotate | |
| 4. bloated | 30. salient | information-carrying |
| 5. body text | words | |
| 6. cluster | 31. secondary pages | |
| 7. cluttered | 32. sensory | |
| 8. de-fluffed language | 33. shape | |
| 9. deviate | 34. straightforward | |
| 10. discourse markers | 35. strategic positioning | |
| 11. emphasis | 36. strictly | |
| 12. exclude | 37. subhead | |
| 13. facilitate | 38. superfluous | |
| 14. fixed font size | 39. texture | |
| 15. goal-driven navigation | 40. thumbnail shot | |
| 16. goal-given | 41. to exhibit | |
| 17. grasp | 42. tricky puzzle | |
| 18. humble | 43. typo | |
| 19. in a single glance | 44. undifferentiated blob of content | |
| 20. intimidating | 45. unintentionally | |
| 21. maze | 46. unintentionally | |
| 22. navigate | 47. unity | |
| 23. out-of-context | 48. unwarranted | |
| 24. overabundance | 49. usability | |
| 25. overabundance | 50. user with disability | |
| 26. page titles | 51. user's lifeline | |
| 27. relevance-enhanced | image | 52. violating design |

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53. violating design convention

55. zooming

54. web-authoring

TEXT 17A. WEB DESIGN.

As the Internet has become to discover its true identity, one of the things that has become clear this still — evolving medium is that major attraction is information. The web sites that attract the largest audiences share one thing in common: they are all in the information business.

What is design? Design — the act of working out the form of something; an arrangement scheme; a decorative or artistic work; the creation of something in the mind. It is not difficult for users to understand the main elements and principles of design. The elements of design — line, shape, space, texture, value and color. The principles of it — movement, emphasis, balance and unity.

Many elements go into successful Web site design, we can cluster those elements into sensory, conceptual and reactive aspects. That is, design isn't only what you see, it's also what you think and feel as you navigate a Web site.

Whether your site is about entertainment or not — your visitors might welcome a few moments of light relief! Perhaps some fun games to play, or a tricky puzzle or maze to solve.

Although gaining attention is an important part of any communication act, it is important to try to keep your message as simple as possible.

- Use only the amount of the text and graphics as is absolutely necessary to get your point across.
- Superfluous graphics can interfere with understanding.
- An overabundance of fonts or colors can distract than assist learning. Remember the Web is international!

A well - designed page, whether in print or on the Web, is the thing of beauty. A skilled designer can take widely different elements like body text, heading, graphics, links and whatever, and arrange them into a harmonious whole. Good design is practical as well as aesthetic. Well -designed pages are easier to read, and lead your readers' eyes where you want them to be led. This article looks strictly at the visual aspects of page design.

A professionally done web-sites brings in greater profits, attracts more customers and help to get in touch with the right partners. All these cannot be achieved without effective web development strategies. Any web development starts with working out web design, concepts and ends with strategic positioning on the Internet, which leads your site to success.

Here's a list often additional design elements that will increase the usability of virtually all sites:

1. Place your name and logo on every page and make the logo a link to the home page.
2. Provide search if the site has more than 100 pages.

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3. Write straightforward and simple headlines and page titles that clearly explain what the page is about and that will make sense when read out-of-context in a search engine results listing.
4. Structure the page to facilitate scanning and help users ignore large chunks of the page in a single glance.
5. Use hypertext to structure the content space into a starting page that provides an overview and several secondary pages that each focus on a specific topic.
6. Use product photos, but avoid cluttered and bloated family pages with lots of photos. Some products may even need zooming or rotating photos, but reserve all such advanced features for the secondary pages. The primary product page must be fast and should be limited to a thumbnail shot.
7. Use relevance-enhanced image reduction when preparing small photos and images.
8. Use link titles to provide users with a preview of where each link will take them, before they have clicked on it.
9. Ensure that all important pages are accessible for users with disabilities.
10. Remember Jakob's Law of the Web Users Experience: users spend most of their time on other sites, so that's where they form their expectations for how the Web works.

Task 2. Complete the sentences as in the text.

- 1 The main elements of design — line, shape, space, —, value and color.
- 2 Design is what you think and feel as you — a Web site.
- 3 Superfluous — can interfere with understanding.
- 4 — pages are easier to read.
- 5 A skilled — can take widely different elements.
- 6 The — is international.
- 7 Provide — if the site has more than one hundred pages.
- 8 Use — to structure the content space into a starting page.
- 9 Some products may need zooming or — photos.
- 10 It is known the — spend most of their time on other sites.

Task 3. Form verbs adding the prefixes a) over- and b) en- to the given words and translate them:

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to heat, to estimate, to charge, to work, to fill, to fulfill, to cool, to grow, to balance, to hear, to supply, to simplify, to use, to develop, to value; rich, sure, due, feeble, noble, close.

Task 4. Translate the sentences into Ukrainian. Pay attention to the use of modal verbs and their equivalents.

1 Every engineer must improve his technical knowledge. 2 You should have helped your friend with Web design. 3 All the preparations with headlines and page titles must have been completed long ago. 4 With this deeper understanding Web site builders will be able to apply more integrated design practices. 5 No matter what Web design you choose, it should express your individuality. 6 With Blue Voda you will be able to build a fantastic Web site like this. 7 How can you make margins? 8 Users might understand your site. 9 Not everything can be standardized. 10 You shouldn't leave this Web site.

Task 5. Discuss the following questions.

- 1 What is design in common?
- 2 What are the main elements of design?
- 3 Design is only what you see, isn't it?
- 4 What can interfere with understanding?
- 5 Why are well-designed pages so successful?
- 6 What is the role of graphics in this process?
- 7 Why you should place your name on every page?
- 8 What kind of photos can you use?
- 9 Why do users spend the most of their time on other sites?
- 10 Have you ever tested your design with real users?

Task 6. Work in pairs and discuss the questions.

1. Why do people have personal websites?
2. Have you ever visited anyone's personal home page? What was it like?

Text 17B. TOP TEN MISTAKES IN WEB DESIGN

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1. Bad Search

Overly literal search engines reduce usability in that they're unable to handle typos, plurals, hyphens, and other variants of the query terms. Search is the user's lifeline when navigation fails. Even though advanced search can sometimes help, simple search usually works best, and search should be presented as a simple box, since that's what users are looking for.

2. PDF Files for Online Reading

Users hate coming across a PDF file while browsing, because it breaks their flow. Even simple things like printing or saving documents are difficult because standard browser commands don't work. Layouts are often optimized for a sheet of paper, which rarely matches the size of the user's browser window. Bye-bye smooth scrolling. Hello tiny fonts. Worst of all, PDF is an undifferentiated blob of content that's hard to navigate. PDF is great for printing and for distributing manuals and other big documents that need to be printed. Reserve it for this purpose and convert any information that needs to be browsed or read on the screen into real web pages.

3. Not Changing the Color of Visited Links

A good grasp of past navigation helps you understand your current location, since it's the culmination of your journey. Knowing your past and present locations in turn makes it easier to decide where to go next. Links are a key factor in this navigation process. Users can exclude links that proved fruitless in their earlier visits. Conversely, they might revisit links they found helpful in the past. Most important, knowing which pages they've already visited frees users from unintentionally revisiting the same pages over and over again. These benefits only accrue under one important assumption: that users can tell the difference between visited and unvisited links because the site shows them in different colors.

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When visited links don't change color, users exhibit more navigational disorientation in usability testing and unintentionally revisit the same pages repeatedly.

4. Non-Scannable Text

A wall of text is deadly for an interactive experience. Intimidating. Boring. Painful to read.

Write for online, not print. To draw users into the text and support scannability, use well-documented tricks: subheads ; bulleted lists ; **highlighted keywords** ; short paragraphs ; the inverted pyramid ; a simple writing style; de-fluffed language devoid of marketese.

5. Fixed Font Size

CSS style sheets unfortunately give websites the power to disable a Web browser's "change font size" button and specify a fixed font size. About 95% of the time, this fixed size is *tiny*, reducing readability significantly for most people over the age of 40. Respect the user's preferences and let them resize text as needed. Also, specify font sizes in relative terms -- not as an absolute number of pixels.

6. Page Titles With Low Search Engine Visibility

Search is the most important way users discover websites. Search is also one of the most important ways users find their way around individual websites. The humble page title is your main tool to attract new visitors from search listings and to help your existing users to locate the specific pages that they need. For other pages than the homepage, start the title with a few of the most salient information-carrying words that describe the specifics of what users will find on that page. Taglines on homepages are a related subject: they also need to be short and quickly communicate the purpose of the site.

7. Anything That Looks Like an Advertisement

Selective attention is very powerful, and Web users have learned to stop paying attention to any ads that get in the way of their goal-driven navigation. Therefore, it is best to avoid any designs that look like advertisements.

8. Violating Design Conventions

The more users' expectations prove right, the more they will feel in control of the system and the more they will like it. And the more the system breaks users' expectations, the more they will feel insecure. This means that they form their expectations for your site based on what's commonly done on most other site. If you deviate, your site will be harder to use and users will leave.

9. Opening New Browser Windows

Opening up new browser windows is like a vacuum cleaner sales person who starts a visit by emptying an ash tray on the customer's carpet. Don't pollute my screen with any more windows, thanks. Users often don't notice that a new window has opened, especially if they are using a small monitor where the windows are maximized to fill up the screen. Users hate unwarranted pop-up windows. When they want the destination to appear in a new page, they can use their browser's "open in new window" command.

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10. Not Answering Users' Questions

Users are highly goal-driven on the Web. They visit sites because there's something they want to accomplish. Sometimes the answer is simply not there. Other times the specifics are buried under a thick layer of marketese and bland slogans. Since users don't have time to read everything, such hidden info might almost as well not be there.

11. Discourse markers: softening and correcting

I think; I feel; I reckon (informal); *I guess* (American); *in my **view/opinion*** (formal); *apparently; so to speak; more or less; sort of* (informal); ***kind of*** (informal); *well; really; that is to say; at least; I'm afraid; I suppose; or rather; actually; I mean*

I think/feel/reckon/guess and *in my view I opinion* are used to **make opinion** and statements sound less dogmatic - they suggest that the speaker is **just** giving a personal opinion, with which other people may disagree.

HOME PAGE HINTS

It's your 'cyberhome', but remember that websites are different from books or magazines. Think about these suggestions to make people want to stay.

1. Use a navigation bar to organise your hyperlinks to other pages.
2. Hyperlinks also let visitors navigate up or down long pages.
3. Keep your use of colour and buttons consistent. If a Next Page button is a pink circle, all Next Page buttons should be the same, and in the same place on the screen.
4. If you use a lot of animations, your Web page will take a long time to download.
5. If you use a lot of graphics, animations and text your Web page will be too busy.
6. It's difficult to read a text that's next to an animation.
7. Keep texts short and simple! Surfers don't like reading on a computer screen much.
8. It's not easy to read multi-coloured text.
9. Lots of bright colours look nice at first, but often give people headaches!
10. Make sure you use a spell check and use good grammar.
11. Try not to use too much slang. People who visit your site may not understand.
12. Don't be afraid to be original. Good websites have something that is different about them and that comes from you!

Task 7. Discuss the following questions.

1. How would you design your personal website?
2. What graphics, images and colours would you use?

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3. What would you say in your text?
4. How many pages would you have?
5. What would you call the links on your navigation bar to show the different pages?

Task 8. Match the words and phrases in the text with the definitions (1-7).

1. _____ connections to a Web page or part of a Web page _____
2. _____ make _____ or produce _____
3. _____ plan or build a Web page _____
4. _____ a group of organized Web links, usually in a line _____
5. does not change, always the same _____
6. the type of software that helps create Web pages _____
7. new, not done before _____

Task 9. Complete the sentences (1-8) with the words in the box.

*busy consistent generate home pages structure
surfers upload Web-authoring*

1. _____ That Web page is much too _____. I don't know what to look at.
2. An FTP server is a computer that lets you _____ files to the Internet.
3. The buttons on this page are not _____ with the button on the last page.
4. _____ Net _____ never like reading a lot of text on the screen.
5. _____ software means you don't have to learn HTML to make a Web page.
6. Many students have their own _____ on the World Wide Web.
7. HTML creates the _____ for Web pages to run on a browser.
8. Web-authoring programs _____ HTML tags for you.

Task 10. Do you know how to design a website? What do people or companies need websites for?

Read the interview and do make up the list of hints on web site advancing.

INTERVIEW: WEBSITE DESIGNER

Part 1

- *INTERVIEWER: What kind of people want websites and why do they want websites?*

- *SALADIN: People who feel they have to be on the Web because competitors are on the Web.*

They feel that not having a website is a sign of being behind the times.

- *INTERVIEWER: Other people have got a website and therefore they have to have one, too?*

• *SALADIN: Yes. The better reason is people who have information they would normally provide free – like brochures, application forms. anything that would normally be sent out by mail.*

- *INTERVIEWER: So it saves fax, postage ...*

- *SALADIN: Printing costs. I think it's particularly useful for colleges and universities.*

- *INTERVIEWER: Why is that?*

- *SALADIN: Because they tend to have a large amount of information to distribute.*

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- *INTERVIEWER: If a client comes to you and asks you for a webpage, how do you set about designing a page for a client?*

- SALADIN: The first thing I would ask for is all their printed promotional material. I would look at all that material and then discuss with the client how much of it to put on the Web. The most important thing is to decide who the audience for this website is, who it is aimed at.

- *INTERVIEWER: Is there a danger of putting too much on?*

- SALADIN: There's certainly a danger of putting too much on. Also, the client has to make a clear decision about how much time or money they're going to spend to keep the pages updated.

- *INTERVIEWER: Aha, so it's not enough simply to have a page, you need regular maintenance of that page.*

- SALADIN: Right, so these are the first two questions - who is it aimed at and how often will it be updated?

Part 2

- SALADIN: Once we've decided what materials should be put on, there are a couple of basic principles to follow. One is that there should never be any dead ends; you should never reach a page which has no...

- *INTERVIEWER: Ah, which doesn't go anywhere?*

- SALADIN: ... Which has no links to take you back to somewhere else. So that's one principle. And the other principle is to try to limit the number of steps that have to be taken from the main home page to any other page. I would normally aim for a maximum of four steps.

- *INTERVIEWER: Do people give up if there are more than two or three links, they simply give up. Is that a problem?*

- SALADIN: Some people will give up. Others will just never find the information, there are too many diversions. Another principle is not to have too many links to scroll through on one page. If you have a page which has 150 links and you have to keep scrolling through them, people will give up... they'll never find the links at the bottom.

- *INTERVIEWER: What about graphics, sound and animations, and all these multimedia features? What's your feeling about these?*

- SALADIN: Always ask why is it there? That's the first thing. And if it's there simply because it makes the page look nicer, think quite carefully about whether to put it there or not. The more of that sort of thing you have, the more time it will take to download the pages. Another factor to bear in mind is that there are still a lot of users with less sophisticated browsers than Netscape or Microsoft Explorer, and if you make the use of the page dependent on graphics and so on. You exclude these users. *INTERVIEWER: So no dead-ends, no more than four steps from home, and pictures have to serve a serious purpose.*

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Part 3

- SALADIN: Another aspect of designing pages is to break the information into relatively small sections.
- INTERVIEWER: *Is that just because of the size of the screen, what you can see at onetime?*
- SALADIN: It's partly that, but it's also to do with download time and printing. People can find they're printing forty pages of a document, most of which they don't want.
- INTERVIEWER: *Is it a big temptation to add links to similar organizations? Is there strength in that, or is there a danger in that?*
- SALADIN: In most cases it's a big strength. Browsers who come across your page, if they discover that your page is a very good gateway to all sorts of interesting sites, will bookmark your page because they know it's a good way to get to all the other sites. If they're coming back to it, they're exposed to your message every time. One final point: it is useful to have on the front page something brief which catches the reader, which says 'this is who we are'.

Task 11. What makes a good website? Discuss these questions.

1. Name two kinds of people who want websites.
2. Why is a website good for people with a lot of information to distribute?
3. What sort of clients is a website particularly useful for?
4. What does Saladin ask for first from client?
5. What important point must be decided?
6. What must the client make a clear decision about?

Task 12. Read Part 2 of the interview and complete the five design principles mentioned.

1. There should never be...
2. A maximum of...
3. Don't have on one page...
4. Don't use multimedia simply to make...
5. Remember there are still a lot of users with...

Task 13. Read Part 3 of the interview. Decide which of these statements Saladin would agree with.

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- 1 Information on websites should be divided into small sections.
- 2 Long sections can be a problem for users who want to print from a website.
- 3 It's a bad idea to have a lot of links to other sites.
- 4 You want users to bookmark your site as a way to get to other sites.
- 5 Your website should start with a brief piece of information to attract the reader.

Task 14. a) Put these pieces of advice about website design into two sets: A (things to do) and B (things not to do).

- 1 Include graphics only to make it look nice.
- 2 Divide information into small sections.
- 3 Have pages with dead-ends.
- 4 Have a lot of links to other sites.
- 5 Have a lot of links on one page.
- 6 Start with a brief piece of information to attract the reader.
- 7 Forget about readers with less sophisticated browsers.

b) Give advice about website design using *has/have to*, *must*, and *mustn't*.

A: things to do

- 1 Divide information into small sections.
- 2 Have a lot of links to other sites.
- 3 Start with a brief piece of information to attract the reader.
- 4 Update your page regularly.

B: things not to do

- 1 Have a lot of links on one page.
- 2 Include graphics only to make it look nice.
- 3 Forget about readers with less sophisticated browsers.
- 4 Have pages with dead-ends

LANGUAGE SKILLS DEVELOPMENT

Exercise 1. Translate the sentences paying attention to the information below.

Допоміжне дієслово be у складі присудків, виражених дієсловами в страдательной формі, може бути замінений допоміжними дієсловами get і become.

Значить, в тексті можна зустріти три різновиди пасивного стану:

be + Participle II - констатація дії, стану;

become + Participle II - становлення дії;

get + Participle II - перехід в новий стан; домогтися якоїсь дії.

Деякі способи перекладу дієслова to get:

1) одержувати, діставати - смислове дієслово;

2) ставати - дієслово-зв'язка;

3) змушувати - в обороті «додаток з інфінітивом»;

4) get не перекладається, коли є допоміжним дієсловом при утворенні пасивного стану.

1. The latter problem has started to get special attention. 2. What happens when a boxer gets knocked out in the ring? 3. To get the best out of any language, some knowledge of simulation techniques is essential. 4. As people get older they grow more set in their ways and do not welcome any innovation. 5. You cannot get blood out of a stone. 6. You cannot expect to get anything without working for it. 7. He got his proposals accepted. 8. The point of equilibrium however is tremendously influenced by the temperature. 9. The results were affected by the presence of impurities. 10. This phenomenon has been dealt with by several researchers. 11. In ethers and similar solvents the frequency was unaffected. 12. No difficulties were met at all. 13. The reaction was followed by measuring temperature. 14. The experiment will be followed by testing the end product. 15. This usage is not followed in carbohydrate chemistry. 16. Hamilton's discovery was quickly followed by other new algebras. 17. No amount of selected examples, however convincing, can be relied upon. 18. What is watched or waited for seems too long in coming. 19. As far as other compounds of this series are concerned they will be dealt with in another chapter. 20. While such special cases are rather easily dealt with the general problem is considerably more difficult. 21. The changes in water content will be accompanied by alterations in salt concentrations, and the latter are also affected by the ionic concentrations of the food ingested. 22. This problem can be approached from several points of view. 23. The congress was referred to as a most representative forum in this field.

Exercise 2. Each sentence has a mistake. Find it and correct it.

1. The ability of tiny computing devices to control complex operations have transformed the way many tasks are performed.
2. I have upgrade my computer by plugging in expansion cards.
3. I used my new printer for printing the computer output on paper since October.
4. Various communication services becomes available on the Internet recently.
5. A multimedia computer has been installed in the office to process different forms of data a year ago.
6. She uses Word and goes into clipart to make cards for her friends when she was a child.

Exercise 3. Translate the sentences paying attention to infinitive constructions.

1. Today it's common to see terminals that include telephones, PCs and larger computers.
2. To know a foreign language is necessary for the computer specialist.
3. It is important to realize that video RAM (VRAM) must meet higher performance specifications than regular RAM.
4. It is necessary to define the tasks of this program.
5. To help our comrades is our duty.
6. To solve this problem is extremely important.
7. It is important to remember that disk drives are mechanical devices.
8. To introduce a microprocessor that is not downwardly compatible with previous models is very risky.
9. To study this program requires much knowledge.
10. New computer systems have such good audio systems that it is possible to listen to music while you work, have the computer tell you when the printer needs paper, play games that include sound, or compose music on the computer.
11. To explain this simple fact is not so very easy.
12. To obtain these data is necessary for carrying out further experiments.
13. To translate the text without a dictionary is difficult.
14. To train highly qualified programmers is extremely important for the development of computer science.
15. To study this programming language requires much knowledge.

WOULD

<p>Study this extract from the interview.</p>	<p>We use <i>would</i> in conditional sentences. For example:</p>
<p>I What do you intend to do next</p>	<p>If you spilled coffee on the keyboard,</p>

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<p>with your site?</p> <p>J I'm going to update the Movie Journal section and <i>I'd like</i> to build in new links.</p> <p>Why doesn't John say, "and I'm going to build in new links"?</p> <p>Later John says,</p> <p>J ... my favourite site <i>would</i> have to be the internet Movie Database.</p> <p>Why doesn't he say, "my favourite site has to be the Internet Movie Database"?</p>	<p>you <i>would</i> damage it.</p> <p>Often the condition is implied, not stated. For example:</p> <p><i>(If I had time)</i> I'd like to build in new links. <i>(If I had to make a choice)</i> my favourite site would have to be the Internet Movie Database.</p> <p>What is the implied condition in this extract?</p> <p>I would look at other sites too for good ideas.</p>
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Exercise 4. Fill in the gaps with will or would.

1. If you use an application program, it ... help you to perform specific tasks such as wordprocessing, typing, copying.
2. If I were you, I ... plan a website carefully with a number of stages including publishing and advertising the website, analyzing its demand.
3. If you decide to create a website, it ... take you several months.
4. If I had time, I ... create a website with more stages and of a higher quality.
5. If we studied HTML, I ... create my own websites.
6. You ... certainly lose your time if you use the Internet Explorer as your browser.
7. I ... like to observe for a while before joining a new online group.
8. How ... you know if the site is effective?
9. – Do you have any tips for others creating a website?
– I ... keep your site updated, I ... look at lots of other sites for good ideas.
10. I ... like to build in new links.

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Exercise 5. Fill in the gaps with the time links: as, when, after, once, before.

1. ... you have clicked on a hyperlink, you have to wait for the webpage to be copied to your computer.
2. The webpage that is set to be displayed ... the browser program first started is referred to as the user's homepage.
3. ... clicking a button known as the Home button, the user can return to the homepage.
4. The user can begin to view the video ... it is completely downloaded.
5. ... sending text messages, abbreviations are used to save typing.
6. ... the website creator creates his website it is copied to a Web server computer.
7. ... the address is typed into a browser program, the browser is automatically re-directed to the actual web address.
8. ... a website has been created and published, it is important that the creator updates the webpages frequently.

Exercise 6. Choose the right variant.

1. I _____ to the news on television at nine o'clock last night.
 - a) was listening
 - b) listened
 - c) have been listening
 - d) had been listening
2. She _____ her work already.
 - a) hasn't finished
 - b) has finished
 - c) finished
 - d) is finished
3. This time next year he _____ in the Black sea.
 - a) swim
 - b) will be swimming
 - c) will swim
 - d) swims
4. It _____ for three hours.
 - a) was snowing
 - b) snowed
 - c) is snowing
 - d) has been snowing
5. His grandfather _____ from his job a year ago.

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- a) has retired c) retires
b) was retiring d) retired
6. He _____ for Moscow as soon as his father _____.
a) will leave, arrive c) leave, will arrive
b) will leave, will arrive d) will leave, arrives
7. I _____ when my friend _____.
a) slept, called c) was sleeping, called
b) was sleeping, was calling d) slept, was calling
8. Katy _____ a party on Saturday.
a) will give c) will be giving
b) is giving d) gives
9. Japan _____ up of a chain of more than one thousand islands.
a) make c) is making
b) is made d) makes
10. All tickets _____ before we got in the theatre.
a) were sold c) are sold
b) have sold d) had been sold
11. About 50 people _____ to the party yesterday.
a) were invited c) was invited
b) invite d) are invited
12. This question _____ at the meeting now.
a) is discussed c) is being discussed
b) is discussing d) has been discussed
13. A seat belt _____ even if you are sitting in the back seat.
a) must wear c) must be worn
b) wore d) must be wearing

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14. I _____ her that I _____ time to play the piano.
a) told, have no
b) said, did not have
c) told, did not have
d) told to, hadn't have
15. She said that Mary _____ get into the flat because she _____ her key.
a) cannot, lost
b) couldn't, has lost
c) couldn't, had lost
d) can't, lost
16. Jane told me that Africa _____ than America.
a) was nicer
b) has been nicer
c) is being nicer
d) is nicer
17. She told us that the weather _____ change soon.
a) would
b) will
c) can
d) may
18. He asked me which street I _____ in.
a) am living
b) live
c) will live
d) lived
19. She asked _____ back in five minutes.
a) phoning
b) to phone
c) phone
d) to be phoned
20. If I _____ a million pounds, I _____ it to the charity organization.
a) won, would give
b) won, would have given
c) had won, would give
d) had won, would have given
21. If it had been warmer, we _____ swimming.
a) might go
b) could go
c) could have gone
d) might have gone
22. If you don't work, you _____ holidays next week.
a) would not have
c) do not have

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b) would not have had

d) will not have

23. I wish I _____ taller, because I am not very tall.

a) would be

c) were

b) would have been

d) will be

24. I wish she _____ me last night.

a) called

c) has called

b) calls

d) had called

25. We _____ see the lake from our bedroom window.

a) are able

c) must

b) can

d) might

26. The phone rang but I didn't hear it. I _____ have been asleep.

a) could

c) must

b) may

d) might

27. It was a great party last night. You _____ have come.

a) could

c) must

b) should

d) might

28. You _____ hungry after having such a big meal.

a) mustn't be

c) can't be

b) don't have to be

d) shouldn't be

29. "Do you know where the Petrovs are?" "I think they _____ to London.

a) should go

c) must be going

b) could have gone

d) may be going

30. I _____ to get up early tomorrow, because my train leaves at 7.30.

a) need

c) must

b) have to

d) might

31. My parents never let me _____ in bed.

a) reading

c) to reading

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b) to read

d) read

32. My father makes me _____ the piano three hours a day.

a) to play

c) play

b) playing

d) in playing

33. Some parents enjoy _____ their children what to do.

a) telling

c) to tell

b) in telling

d) tell

34. The child was so nice that people couldn't help _____ at him.

a) smile

c) smiling

b) to smile

d) from smiling

35. I don't want anyone _____ me while I feel depressed.

a) see

c) to see

b) seeing

d) saw

36. I'd love _____ abroad this summer.

a) going

c) go

b) to go

d) going to

37. Caroline earns living _____ antiques.

a) for selling

c) by selling

b) to sell

d) sell

38. When I woke up in the morning, I could hear my mother _____.

a) to cough

c) coughed

b) coughing

d) cough

WRITING

Visit a website or home page of your choice. Make notes on what is good and bad about it. Report back to the class and make a class file of good and badly designed sites for people to visit.

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UNIT 18

COMPUTER GRAPHICS

Vocabulary Bank Unit 18

Task 1. Read, write the translation and learn the basic vocabulary terms:

- | | |
|-------------------------------------|------------------------------------|
| 1. Bezier Curve | 27. layout program |
| 2. bitmapped graphics | 28. lens flares |
| 3. computer-aided design | 29. lighting |
| 4. constructive solid geometry | 30. luminosity |
| 5. continuity | 31. motion blur |
| 6. contour line | 32. non uniform rational B-spline |
| 7. dedicated programs | (NURBS) |
| 8. density | 33. non-interactive media |
| 9. depth of field | 34. NURBS modelling |
| 10. desktop publishing (DTP) | 35. polygonal modelling |
| 11. digital art | 36. Predictable |
| 12. digital cartooning systems | 37. real-time imagery |
| 13. distinction | 38. reflections |
| 14. distorted | 39. rendering |
| 15. edge | 40. resolution |
| 16. fractal (n) | 41. scene description language |
| 17. frame | 42. scene layout |
| 18. freehand drawing | 43. shaping |
| 19. geographical information system | 44. simulated artefact of a camera |
| (GIS) | 45. spline modelling |
| 20. hardware acceleration | 46. subdivision surfaces |
| 21. hierarchical editing | 47. the Koch snowflake |
| 22. high-resolution output | 48. the Mandelbrot set |
| 23. illustration packages | 49. theatre lighting technician |
| 24. implicit surfaces | 50. to be scaled |
| 25. index of refraction | 51. to benefit |
| 26. keyframing | 52. to contribute |

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53. to establish

55. vector graphics

54. transparency

56. visual techniques

Text 18 A. TYPES OF GRAPHICS SOFTWARE

Computer graphics are pictures created, changed or processed by computers. There are two categories.

1. **Bitmapped graphics** represent images as bitmaps; they are stored as pixels and can become a bit distorted when they are manipulated. The density of dots, known as the resolution and expressed in dots per inch, determines how sharp the image is.

2. **Vector graphics** represent images as mathematical formulae, so they can be changed or scaled without losing quality. They are ideal for high-resolution output.

There are different types of graphics software.

- Image manipulation programs let you edit your favourite images. For example, you can scan a picture into your PC or transfer a photo from your camera and then add different effects, or filters.

- **Painting and drawing programs**, also called **illustration packages**, offer facilities for freehand drawing, with a wide choice of pens and brushes, colours and patterns. One example is *Windows Paint*.

- **Business graphics programs**, also called **presentation software**, let you create pie charts, bar charts and line graphs of all kinds for slide shows and reports. You can import data from a database or spreadsheet to generate the graphs. (Spreadsheets, or worksheets, are mathematical tables which show figures in rows and columns. A spreadsheet program helps you manage personal and business finances.)

- **Computer-aided design (CAD)** is used by engineers and architects to design everything from cars and planes to buildings and furniture. First they make a wireframe, a drawing with edges and contour lines. Then if they want to colour the objects and add texture, they create a surface for the object; this is called 'filling the surface'. Finally, the design is rendered to make the object look realistic. Rendering is a process that adds realism to graphics by using shading, light sources and reflections.

- **Desktop publishing (DTP)** is based around a page layout program, which lets you import text from a word processor, clip-art (ready-made pictures) from graphics packages, and images from scanners or cameras, and arrange them all on a page. It is used to design and publish books, newspapers, posters, advertisements, etc.

- **Digital art**, or **computer art**, is done with applets that use mathematical formulae to create beautiful bright shapes called fractals. A fractal is a geometric figure with special properties, e.g. the Koch snowflake or the Mandelbrot set. Fractals can also be used to model real objects like clouds, coastlines or landscapes.

- **Computer animation** uses graphics program (e.g. digital cartooning systems) to create or edit moving pictures. Each image in a sequence of images is called a 'frame'.

- **Geographic information systems (GIS)** allow cartographers to create detailed maps.

Task 2. Decide which type of graphics software is best for these users.

1) a person who wants to edit photos at home; 2) an economist who wants to present statistics in a form that can be easily understood; 3) engineers who need to design the interior and exterior of a new airplane; 4) a company which needs to design and publish a magazine; 5) an artist who wants to produce illustrations and freehand drawings for a book; 6) an organization that needs to make maps and 3D virtual models of the surface of the Earth; 7) computer animators who make movies like *Toy Story* and *Shrek*; 8) a mathematician who wants to make fractal shapes of natural phenomena

Task 3. Complete the sentences with the words in the box. Translate.

<i>presentation software image manipulation filters</i>
<i>bitmaps page layout rendering fractals</i>

1. ... are stored as pixels and can become a bit distorted when they are manipulated. 2. In painting programs and image editors, ... are special effects that can be applied to a picture, including drop shadows, textures, distortions, etc. 3. ... let you create pie charts, bar charts and line graphs. 4. ... adds textures to each surface and generates realistic reflections, shadows and highlights. 5. ... are geometrical patterns that are repeated at a small scale to generate irregular shapes, some of which are similar to objects in nature. 6. ... program lets you import text from a word processor, clip-art from graphics packages and images from scanners or cameras. 7. ... programs let you edit your favourite images.

Task 4. Translate the following text from Ukrainian into English:

Існує величезна область так званої технічної графіки. Геодезисти і картографи, поліграфісти і астрономи, конструктори та архітектори, дизайнери, модельєри, творці реклами,

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медики - це далеко не всі, кому необхідна можливість роботи із зображенням за допомогою комп'ютера. Таке призначення програми "графічний редактор". Використання цих програм відкриває перед людьми нові професійні можливості. Зображення в комп'ютерній графіці являє собою безліч точок різного кольору, які утворюють статичне або динамічне (що змінюється, рухається) зображення. Саме у зв'язку з цією можливістю розвивається новий вид мистецтва - комп'ютерна мультиплікація (анімація). Основні функції програми графічного редактора - забезпечення створення зображень, їх редагування, збереження в зовнішній пам'яті (ВЗУ) і отримання копій на папері, кіноплівці і т.п. Серед користувачів IBM-сумісних комп'ютерів найбільшу популярність здобули такі графічні редактори як PaintBrush, CorelDraw та ін.

Task 5. Translate the following words into Ukrainian:

modeling, akin, analogous, rely, blur, occasionally, technique, effect, primarily, visual, imagery, acceleration, sequentially, process, polygonal, luminosity, diffuse, transparency, affect, virtual, technicians, transforming, circumference, tessellation, approximately, transferred, flares, merely, artifact, volumetric, proprietary, curve.

Task 6. Discuss the following questions:

1. What computer graphics programs do you know?
2. Where can we use computer graphics?
3. What skills should a computer graphics developer have?

Task 7. Read and translate the following text and do the exercises below.

TEXT 18B. COMPUTER GRAPHICS

3D computer graphics are works created by computers and specialized 3D software. In general, the art of 3D modelling is akin to photography, while the art of 2D graphics is analogous to painting. 3D computer graphics relies on the same algorithms that 2D computer graphics does. In computer graphics

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software this distinction is occasionally blurred. Some 2D applications use 3D techniques to achieve certain effects, e.g., lighting, while some primarily 3D applications make use of 2D visual techniques, i.e., 2D graphics is a subset of 3D graphics.

OpenGL and Direct 3D are two popular APIs for the generation of real-time imagery. Many modern graphics cards provide hardware acceleration based on the APIs that frequently enable to display complex 3D graphics in real-time. However, it is unnecessary to employ any of them to create 3D computer graphics. The process of creating 3D computer graphics can be divided into three basic stages, such as: modelling, scene layout setup and rendering.

The modelling stage can be described as shaping individual objects later used in the scene. There exist a number of modelling techniques, for instance, constructive solid geometry, NURBS modelling, polygonal modelling, subdivision surfaces and implicit surfaces. Modelling may also include editing object surface or material properties (e.g., colour, luminosity, reflection characteristics, transparency or index of refraction), adding textures and others. It may also include various activities related to preparing for animation of a 3D model. Modelling can be performed by means of dedicated programs (e.g., Lightwave Modeller, Rhinoceros 3D, Moray), application components (Shaper, Lofter in 3D Studio) or a scene description language.

Scene layout setup involves arranging virtual objects, lights, cameras and other entities on a scene which will be later used to produce an image or an animation. If it is used for animation, this stage usually makes use of a technique called «key framing». This technique facilitates creation of complicated movements in the scene. Lighting is an important aspect of stage setup. Its effects can contribute greatly to the mood and emotional response, facts which are well-known to photographers and theatre lighting technicians.

Rendering is the final stage of creating the actual 2D image or animation from the prepared scene. Rendering for interactive media, such as, games and simulation, is calculated and displayed in real time, at rates of approximately 20 to 120 frames per second. Animations for non-interactive media, such as, video and film, are rendered much more slowly. For complex scenes rendering time of individual frames may vary from few seconds to an hour or more. Rendered frames are stored on a hard disk and then transferred to other media, such as, motion picture film or optical disk. These frames can be displayed at high frame rates, typically 24, 25 or 30 frames per second, to achieve the illusion of motion. Rendering software may simulate such visual effects as lens flares, depth of field or motion blur.

These are attempts to simulate visual phenomena resulting from the optical characteristics of cameras and human eye. These effects can lend an element of realism to a scene, even if the effect is merely a simulated artefact of a camera.

Techniques have been developed in order to simulate other naturally-occurring effects, for instance, the interaction of light with various forms of matter. Examples of such techniques include

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particle systems (which can simulate rain, smoke or fire), volumetric sampling (to simulate fog, dust and other spatial atmospheric effects) and a lot of others. Rendering is computationally expensive. Software for rendering is included in 3D software packages, but there are some rendering systems that are used as plug-ins to popular 3D applications.

The output of the rendering software is often used as only one small part of a completed motion-picture scene. Many layers of material may be rendered separately and integrated into the final stage by using special software packages.

NURBS stands for « » and is a mathematical model commonly used in computer graphics for generating and representing curves and surfaces. The development of NURBS (actually the Bezier Curve) began in the 1950s by engineers who needed free form surfaces representation like those that used for car bodies and ship hulls. Prior representations of this kind of surfaces existed only as a single physical model created by the designer.

NURBS is important for computer-aided design, manufacturing, engineering (CAD, CAM, CAE) and is a standard for numerous industries. But there is still a lot of confusion about their advantages and disadvantages for interactive modelling. In general, it is known that editing NURBS curves and surfaces is highly intuitive and predictable. Depending on the type of user interface, editing can be realized via NURBS control points, most obvious and common for Bezier curves, or via higher level tools, such as, spline modelling or hierarchical editing. Higher level tools can be designed to be very powerful and benefit from the ability of NURBS to create and establish continuity of different levels.

Task 8. Decide whether the following statements are true or false. If they are false, correct them.

1. All 2D applications use 3D techniques to achieve certain effects.
2. The output of the rendering software is seldom used as only one small part of a completed motion picture scene.
3. Real-time, interactive rendering of NURBS curves and surfaces were first made available in 1989.
4. Polygon representations are not used in all rendering techniques.
5. The first interactive NURBS modeling software for PCs was called CAS.

Task 9. Look in the text and find synonyms to the following:

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operate, information, often, similar, method, different, too, famous, stage, result, several, to be able to.

Task 10. Arrange the words in the correct order to make sentences:

1. image, in, means, occurs, Real-time, generation, «on-the-fly», that, or, «real-time».
2. in, representation, geometric, stored, the, A, computer, three-dimensional, of, is, data.
3. starts, model, The, process, a, 3D, cel-shading, typical, with.
4. is, occurs, a, The, drawn, difference, cel-shaded, on-screen, when, object.
5. significant, factor, is, contributing, a, Lighting.

Task 11. Define the following terms:

graphics, algorithm, model, real-time, frame, simulation, technique, package, interactive, data.

Task 12. What do the following abbreviations stand for?

3D, API, NURBS, CAD, CAM, CAE, PC.

Task 13. Discuss the following questions:

1. What is 3D computer graphics?
2. In what cases do 2D applications use 3D techniques?
3. What are the stages of creating 3D computer graphics?
4. What do you know about modeling techniques?
5. What special programs can be used for modeling?
6. Who created NURBS?
7. When did NURBS appear?
8. What are the spheres of NURBS application?

LANGUAGE SKILLS DEVELOPMENT

Exercise 1. Translate the sentences paying attention to Complex Object construction.

1. The transmission mode enables the receiving computer to know where one byte ends and next byte begins on the transmission medium. 2. A remote terminal enables the user to operate the distant computer, just as is that person were sitting in front of the distant computer and using its keyboard. 3. A good communication program directs the modem to dial the telephone number needed. 4. Electronic mail (e-mail) enables you to send messages from your computer for access at someone else's computer. 5. Compared to the postal service, electronic mail has many advantages. Many systems let you check to see whether the recipient has accessed your message. 6. International electronic mail systems enable you to find "pen pals" all over the world. 7. Some e-mail systems require you to be part of the same system to receive your message. 8. Facsimile transmission enables you to send an image of a document over the telephone lines to anyone who has a fax machine. 9. Electronic mail, or e-mail, allows messages sent from your computer to be accessed by the recipient at his or her computer, as long as you both have access to the same e-mail system. 10. Bulletin board systems (BBSs) enable independent computer users, using telecommunications, to interact with each other through a central contact. 11. Computer networks enable us to conquer another dimension – space. 12. The file allocation table enables the computer to locate data easily. 13. CD-erasable enables users to store, access, and reuse discs in the same way that floppy discs can be used. 14. Computer keyboards include keys that are designed to perform specific tasks. These keys enable the user to perform complex tasks easily when using the application. 15. Optical recognition systems enable the computer "to read" data by scanning printed text for recognizable patterns. 16. A debugger is system software that helps programmers identify errors. 17. Programming languages require certain formalities, and advanced text editors help programmers stick to the proper forms. 18. The event is a message that causes a procedure (subprogram) attached to the object to respond. 19. Fortran enables programmers to describe and solve mathematical calculations readily. 20. System software programs help the hardware components work together and provide support for application programs. 21. Engineers consider computing equipment to make production processes more effective.

Exercise 2. Translate the sentences paying attention to Complex Subject construction.

<i>Complex Subject</i>

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- *Computing equipment is known to make production process more effective.* -

Відомо, що комп'ютерне обладнання робить виробничі процеси більш ефективними. (Комп'ютерне обладнання, як відомо, робить виробничі процеси більш ефективними.)

- *The chip appeared to be a crucial development in the accelerating pace of computer technology.* - Кристали виявилися важливим винаходом в прискоренні розвитку комп'ютерних технологій.

- *He is certain to know the password.* - Безсумнівно, він знає пароль.

1. The programmer is free to concentrate on the desired result – what the program is supposed to accomplish – rather than worry about the details of how the computer operates. 2. Each new communications technology or application seems to require its own standards. 3. Internet-2 is expected to be deployed around this year. 4. Each new communications technology or application seems to require its own standards. 5. Capturing data at the source minimizes errors because the people who key the data are doing a variety of tasks and are therefore less likely to make errors due to boredom. 6. Processor is known to refer to the processing circuits: central processing unit, memory, interrupt unit, clock, and timing. 7. Many so-called general-purpose computers are known to have features which restrict their use to certain general problem areas. 8. The desk computer is expected to function as your personal librarian, carry out simple optimization computations, control your budget or diet, play several hundred games, etc. 9. Further development of the computer is believed to lead to a situation in which most of the knowledge accepted by mankind will be stored in computers and made accessible to anyone with a home computer. 10. The development of the project appears to be improving. 11. He proved to be an excellent programmer. 12. At present the most important examples of semiconductors seem to be silicon and germanium. 13. The importance of mathematics for all sciences is known to be growing rapidly. 14. The creation of complex modern machines is considered to require a thoroughly developed industry and a high technical level in all branches of industry. 15. The program proved to be a great success.

Exercise 3. Translate the sentences paying attention to the for-phrase construction.

Прийменниковий інфінітивний зворот "**for + іменник (займенник) + інфінітив**" (**for-phrase**) виконує роль будь-якого члена пропозиції: доповнення, частини присудка (в науковій літературі найчастіше функції обставини мети або сліdstва) і перекладається в залежності від виконуваної ним функції. Може перекладатися підрядним реченням, зі сполучниками *що, щоб, для того щоб, який*, підметом якого стає іменник або займенник, що стоїть перед інфінітивом, а

присудком - інфінітив.

- *The only conclusion for him to make was the following.* Єдиний висновок, до якого він міг прийти, полягав у наступному.

Можливий переклад цього обороту іменником або інфінітивом:

- *It was important for us to solve this problem as soon as possible.* Нам було важливо вирішити цю проблему якомога швидше.

1. It is important for the researchers to fulfill their work in time. 2. It takes more time for the reaction to complete at low t. 3. It is impossible for the driver to stop the car at such a high speed quickly. 4. The problem I spoke to you about is too difficult for the designers to be solved in a year or so. 5. Here is one more important point for the speaker to explain. 6. These stars are too remote for the astronomer to answer these questions. 7. He proved that it was possible for the angle to be altered. 8. It is possible for computers to handle all types of information. 9. For a computer to be programmed each problem must be reduced to a series of very simple steps. 10. Two hours were sufficient for the reaction to occur. 11. The language of specialists is often difficult for the layman to read. 12. There is a tendency for the method to be used in all the experiments. 13. It took a long time for mathematicians to realize that not all continuous functions have a derivative. 14. A computer is a suitable machine for them to use in their research work. 15. All the instruments for that computer to work properly have been given.

Exercise 4. Fill in the gaps in these sentences with a suitable verb in the correct form.

Store / hold / input / control / convert / process / provide (x2)/ speed up

1. A mainframe computer is used for ... (1) ... large amount of data such as a major company's accounts and client database.
2. The processor is used to ... (2) ... all the operations in a computer.
3. RAM ... (3) ... data read or written to it by the processor.
4. The keyboard is used to ... (4) ... data through keys like a typewriter.
5. **Cache ... (5) ... extremely fast access for sections of a program and its data.**
6. A PDA is used to ... (6) ... information such as appointments.
7. RAID ... (7) ... the system and ... (8) ... a way of recovering data if the system crashes.
8. Modem is used for ... (9) ... digital signals to analogue signals and vice versa to allow a computer to be connected to the ordinary telephone line.

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Exercise 5. Describe the function of an item emphasizing its function.

Example: ROM / hold instructions which are necessary to start up the computer.

The function of ROM is to hold instructions which are needed to start up the computer.

1. hard disk drive / store programs and data
2. memory / hold the instructions and data used by the processor
3. RAM / hold data read or written to it by the processor
4. clock / control the timing of signals in the computer
5. monitor / display the output from a computer on a screen
6. DVD-ROM drive / read DVD-ROMs

Exercise 6. Use the correct tense-forms of the verbs in brackets.

1. Computers (*to use*) to provide cash to users and to process bank cards such as Visa cards using an automatic teller machine.
2. A microprocessor (*to calculate*) the speed of the car from the changes in the radio waves.
3. When the smart card (*to take back*) to the police station, the driver's details (*to obtain*) from the DVLC (Driver and Vehicle Licensing Centre).
4. New systems (*to prevent*) 'surfing' i.e. where the driver only (to slow) down as they (to pass) through the speed trap.
5. The registration numbers of vehicles exceeding the speed limit immediately
6. (*to download*) to the computer at police headquarters.
7. At police headquarters each vehicle (to match) with the Driver and Vehicle Licensing Centre database.
8. Standard letters then (*to print off*) addressed to the vehicle owners.

Exercise 7. Put the words in the right order to make correct sentences.

1. his / into / puts / the / enters / PIN / customer / the / card / machine / and / his / number
2. magnetic / on / is / the / strip / the / on / information / read / by / ATM / the / card / the
3. contains / the / name / strip / the / holder / the / account / of / number / his /
4. account / the / and / network

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5. computer / a / holds / central / on / accounts / many / information

6. are / account / the / customer's / number / in / his / amount / money / of / PIN /and/checked / the

7. the / instructed / cash / to / requested / the / is / dispense / ATM

GIVING ADVICE

<p>Study these examples of advice from the texts you read in Task 4.</p> <p>You can use the modal verb <i>should</i>:</p> <p>1. Your navigation system <i>should</i> be based on text links.</p> <p>You can use an imperative:</p> <p>2. Avoid frames wherever possible. 3. Don't change the location of your navigation elements.</p> <p>Note that avoid is followed by the -ing form. For example:</p> <p>4. Avoid using frames.</p> <p><i>Had better</i> is for advice which is close to a warning. It indicates something unpleasant will happen if the advice is not taken:</p>	<p>5. If you're committed to using frames on your site, <i>you'd better</i> commit yourself to some extra work too.</p> <p>Other ways to give advice are:</p> <p>6. <i>I recommend</i> Jennifer Fleming's <i>Web Navigation</i>.</p> <p>7. <i>It's a good idea to</i> visit a few larger sites.</p> <p>To make advice more persuasive, you can add the reason for your advice. For example:</p> <p>It's a good idea to visit a few larger sites [advice] to get some ideas on designing an effective site map [reason].</p>
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Exercise 8. Put the words in the correct order to make sentences.

1. to create/ remember / on a background color / to your web page background color /is / that / your transparent GIFs / the same or close
2. are / ready / not / to / pages / link / that / not / do
3. you want indexed / that / make sure / can / all / with / documents / normal links / the index / from / (no image maps) / documents / be reached
4. site / choose / the / to put / appropriate / with the intended audience / your banner ad / most / to maximise / its potential
5. are / image / should / "natural" / be / not / they / avoided / maps/ when
6. every / languages available / to / should / document / multilingual hierarchy / in / include / a / links / the other
7. way / make / document(s) / sure / a / index / to / is / to / the / or / overview / *always* / there / navigate

Exercise 9. Match the two parts.

1. Try to keep the length of the title under 64 characters; this prevents it from being cut off in browser windows and bookmark lists.	A authors should <i>always</i> use the ALT attribute to provide a textual alternative.
2. To make the documents render faster,	B it's a good idea to fix your document so it still works if the browser-specific material is ignored.
3. When using the IMG or AREA elements,	C to allow a user to get a preview of the image quickly.
4. Authors had better avoid specifying absolute widths larger than a few hundred pixels,	D because a document marked up structurally can easily adapt to different browsing environments.
5. If you use browser-specific elements,	E since large widths can cause horizontal scrolling with narrow windows or large fonts.
6. I recommend to concentrate on the <i>structure</i> of the document rather than its <i>presentation</i>	F which prevents it from being cut off in browser windows and bookmark lists.
7. If you want to provide large	

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images, then use small thumbnails	G you should include the WIDTH and HEIGHT attributes on the IMG element.
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Exercise 10. Make sentences using the clue given.

1. not give open access to PCs / may get viruses (avoid)
2. not drink coffee in the lab / damage the keyboard (better)
3. rather than image maps or graphical buttons / to base your navigation system on text links (should)
4. use up-to-date anti-virus software / new viruses appear all the time (recommend)
5. hear strange noises emanating from your computer / shut it off immediately before further damage is incurred (better)
6. use the Internet / take precautions not to get virus-infected (good idea)
7. broadband to download audio and video files within seconds / enables you to use the Internet more efficiently (recommend)

Exercise 11. Choose the right variant.

1. Tom, (*you, finish*) reading the newspaper yet? - No, I still (*read*) it.
2. At noon yesterday, the staff (*have*) their monthly meeting.
3. The teacher (*give*) the students a test when the principle (*come*) into the classroom.
4. Dad (*close*) the windows, (*set*) the alarm, and (*leave*) the house. The children (*sleep*) already.
5. ... Nelson Column (*erect*) in 1842 in ... Trafalgar Square in commemoration of Admiral Nelson, who (*win*) a triumphant naval victory, but (*kill*) in the battle.
6. To commemorate Admiral Nelson's Victory in (a, *the*, -) great naval battle at Trafalgar, (a, *the*, -) Trafalgar Square (*construct*) in London.
7. In 1066 an invading army of the Normans (*win*) the victory at the battle of Hastings; as a result of that single battle, William, Duke of Normandy, (*crown*) king of England and (*become*) known in the popular history as William the Conqueror.
8. My teacher told me I (*might, had to, needed*) stay after school as (*the, a, -*) punishment for talking in class.

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9. (Need, can, ought) I borrow your pen? (My, mine) doesn't work.
10. I (must, mustn't, may) go to (a, the, -) bank. I haven't got (some, any, little) money.
11. What time (mustn't, will, shall) I pick you up from (a, the, -) work? - (At, in, about) 7 sharp.
12. Have you heard Jane's playing (the, a, -) piano (late, lately)? - Yes, but he (not, seem) to be getting (good).
13. I like living in the country. It's a lot (peaceful) than the city.
14. ... Louvre has a large number of famous works, such as ... Mona Lisa and ... Venus de Milo. (a, the, -)
15. (A, the, -) pyramids in Egypt (build) to be tombs for (a, the, -) pharaohs.
16. In ... New York you could visit ... Central park, ... Empire State Building and ... Times Square and see ... show on ... Broadway, (a, the, -)
17. He's late again. It's typical (of, for, about) him to keep everybody waiting.
18. Be careful, there (be) too (many, much, a lot of) cars in (this, these) cities.
19. (Many, much, a little) students have financial problems, ... ?
20. (Few, little, a lot of) customers (come) into the shop today. It (be) quite all day long.
21. A young woman (sit) on (a, the, -) park bench while the children (play) nearby.
22. The boy went to (a, the, -) bed early because he (play) football all day.
23. Peter decided that he (not, leave) for work until he (shovel) the snow from the drive.
24. The lawnmower (break down) while my father (mow) the lawn.
25. (A, the, —) new chairman of the company (announce) in a week. The candidates (discuss) now.
26. She (expect) to arrive (to, in, at) London at 3 o'clock tomorrow afternoon.
27. You just (clean) the stairs? - Yes, so be careful. (It, they) (be) very slippery.
28. You put that shirt in the washing machine. - I know. It ... be dry-cleaned, (mustn't, couldn't, have to)
29. A university degree is a useful thing. If I (have) a university degree, I (sit) in a comfortable office now instead of standing at a street corner selling newspapers.

WRITING

Imagine that you are to make a report on the following topics. While preparing it use the main information from the text.

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1. How to become a computer graphics developer.
2. Advantages and disadvantages of 3D computer graphics.
3. 3D computer graphics in game industry.

UNIT 19

DATA PROTECTION

Vocabulary Bank Unit 19

Task 1. Read, write the translation and learn the basic vocabulary terms:

- | | |
|----------------------------|------------------------------|
| 1. black-hat hacker | 27. juristically fixed rules |
| 2. breaking open | 28. leak |
| 3. cash-dispensing systems | 29. malicious software |
| 4. computer extortion | 30. massifs |
| 5. console operator | 31. personal enrichment |
| 6. cracker | 32. personal privacy |
| 7. dark filters | 33. positive identification |
| 8. decryption | 34. predator |
| 9. distortion | 35. public cryptosystem |
| 10. duplicate | 36. ransom |
| 11. embedded | 37. restrictions |
| 12. encryption | 38. safeguarding |
| 1. envisage | 39. security matrix |
| 13. fingerprints | 40. shareware applications |
| 14. firewall | 41. sneakernet crowd |
| 15. firmware | 42. sniffer program |
| 16. for abusing | 43. spyware |
| 17. fraud | 44. surge protector |
| 18. fraudulent use | 45. theft of data |
| 19. freeware program | 46. throughput |
| 20. harassment | 47. to confine |
| 21. ill-intentioned use | 48. to forge |
| 22. impose | 49. to protect |
| 23. industrial espionage | 50. unsanctioned |
| 24. innocent-looking file | 51. unscrupulous |
| 25. intruder | 52. violators |
| 26. IP spoofing | 53. voiceprints |

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54. white-collar crime

56. write-protect measures

55. worms

Text 18A. DATA PROTECTION

The computer industry has been extremely vulnerable in the matter of security. Computer security once meant the physical security of the computer itself — guarded and locked doors. Computer screens were given dark filters so others could not easily see the data on the screen. But filters and locks by no means prevented access. More sophisticated security means safeguarding the computer system against such threats as burglary, vandalism, fire, natural disasters, theft of data for ransom, industrial espionage, and various forms of white-collar crime.

Rapid development of automation processes and the penetration of the computers in all fields of life have lead to appearance of a range of peculiar problems. One of these problems is the necessity of providing effective protection to information and means of its processing.

A lot of ways to access information, considerable quantity of qualified specialists, vast use of special technical equipment in social production make it possible for violators practically at any moment and in any place carry out the actions, which represent a threat to information safety.

Particular role in this process has been played by appearance of personal computer (PC), which has made computers, software and other informational technologies available to general public. Wide distribution of PC and impossibility of conducting effective control of their use have resulted in the decreasing security level of information systems.

The problem of information security is relatively new. Not all problems, connected with it have been figured out and solved up to now. The fact of great number of computer systems users means the definite risk to security because not all clients will carry out the requirements of its providing.

The order of storage mediums should be clearly defined in legal acts and envisage the complete safety of mediums, control over the work with information, responsibility for unsanctioned access to medium with a purpose of copying, changing or destroying them and so on.

There are some legal aspects of information protection, which can appear due to not carefully thought or ill-intentioned use of computer techniques:

- Legal questions of informational massifs form distortions;
- Security of stored information from the unsanctioned access;
- Setting juristically fixed rules and methods of copyrights protection and priorities of software producers;
- Development of measures for providing the juridical power to the documents, which are given to the machines;
- Legal protection of the experts' interests, who pass their knowledge to the databases;
- Setting of legal norms and juridical responsibility for using electronic computer means in personal interests, which hurt other people and social interests and can harm them;

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- The lack of appropriate registration and control, low level of work and production personnel discipline, the access of an unauthorized persons to the computing sources create conditions for abusing and cause difficulties to their detection. In every computing center it is usual to set and strictly follow the regulations of the access to different official rooms for employees of any categories.

The main purpose of information protection is preventing from the leak, theft, distortion, counterfeit of information; preventing the threat to person's life and social safety, protection of the constitution and so on. The information is subjected to protection, when it may cause the harm for its owner, user or other person.

The development of computer technology and its wide use have lead to appearance and spread of computer crimes. Such situation causes alarm among those organizations and legislative institution that use computer technologies and, of course, people, who use new informational services at home.

The term "computer crime" was first used in the early 70s. However, the discussions concerning it are still actual. The top question of these discussions is "What unlawful actions are implied by computer crime".

A rank of definitions of the computer crime has been composed. It often refers to crimes directly or indirectly connected to electronic computing machines and which includes a number of illegal acts, committed by means of electronic data processing system or against it. Others consider that computer crime is any action, which goes together with interfering with property rights and fulfilled by means of computers. The thirds think that computer crime can be defined as all intentional and unlawful actions, which lead to causing harm to possessions, with help of computers too.

There are following forms of computers criminality: computer manipulations, economic espionage, sabotage, computer extortion, "hacker" activity. The main character of committing computer crimes in the business field becomes highly qualified "white collars" from the suffered organization's employees.

There are many causes, when "hackers" get a job with a goal of personal enrichment. But the most danger can represent such specialists, who are in collusion with managers of commercial structures and organized criminal groups; in these situations causing damage and weight of consequences considerably increases.

There are two types of unsanctioned access:

- internal "breaking open" – the criminal has access to the terminal, with information he interested in and can work with it for some time without somebody's control;
- external "breaking open" – the criminal doesn't have indirect access to the computer system, but has an opportunity of penetration to the protected system by means of remote access;

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Analysis of such actions shows that single crimes from own or neighbor work places gradually develop into network computer crimes, which are carried out by means of breaking of organizations' protecting systems.

Therefore the importance of information protection cannot be doubted. However, not only companies and state institutions need information protection system but also general home users need information protection system and should maintain the security of their computers.

Emphasis on Access and Throughput. For the last decade or so, computer programmers have concentrated on making it easy for people to use computer systems. Unfortunately, in some situations the systems are all too easy to use; they don't impose nearly enough restrictions to safeguard confidential information or to prevent unauthorized persons from changing the information in a file.

It's as if a bank concentrated all its efforts on handing out money as fast as it could and did very little to see that the persons who requested the money were entitled to it. Of course, a real bank works just the opposite way, checking very carefully before handing out any money. Computer systems that handle sensitive personal and financial data should be designed with the same philosophy in mind.

Positive Identification of Users. A computer system needs a sure way of identifying the people who are authorized to use it.

The identification procedure has to be quick, simple, and convenient. It should be so thorough that there is little chance of the computer being fooled by a clever imposter. At the same time, the computer must not reject legitimate users. Unfortunately, no identification system currently in use meets all these requirements.

At present, signatures are widely used to identify credit-card holders, but it takes an expert to detect a good forgery. Sometimes even a human expert is fooled, and there is no reason to believe that a computer could do any better.

A variation is to have the computer analyze a person's hand movements as he signs his name instead of analyzing the signature itself. Advocates of this method claim that different persons' hand movements are sufficiently distinct to identify them. And while a forger might learn to duplicate another person's signature, he probably would not move his hand exactly the way the person whose signature he was forging did.

Photographs are also sometimes used for identification. But, people find it inconvenient to stop by a bank or credit card company and be photographed. Companies might lose business if they made the pictures an absolute requirement. Also, photographs are less useful these days, when people frequently change their appearance by changing the way they wear their hair. Finally, computer programs for analyzing photographs are still highly experimental.

Cash-dispensing systems often use two identification numbers: one is recorded on a magnetic stripe on the identification card, and the other is given to the cardholder. When the user inserts his card

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into the cash-dispensing terminal, he keys in the identification number he has been given. The computer checks to see that the number recorded on the card and the one keyed in by the user both refer to the same person. Someone who stole the card would not know what number had to be keyed in to use it. This method currently is the one most widely used for identifying computer users.

For a long time, fingerprints have provided a method of positive identification. But they suffer from two problems, one technical and one psychological.

The technical problem is that there is no simple system for comparing fingerprints electronically. Also, most methods of taking fingerprints are messy. The psychological problem is that fingerprints are strongly associated in the public mind with police procedures. Because most people associate being fingerprinted with being arrested, they almost surely would resist being fingerprinted for routine identification.

Voiceprints may be more promising. With these, the user has only to speak a few words into a microphone for the computer to analyze his voice. There are no psychological problems here. And technically it's easier to take and analyze voiceprints than fingerprints. Also, for remote computer users, the identifying words could be transmitted over the telephone.

However, voiceprints still require more research. It has yet to be proved that the computer cannot be fooled by mimics. Also, technical difficulties arise when the voice is subjected to the noise and distortion of a telephone line.

Even lip prints have been suggested. But it's doubtful that kissing computers will ever catch on.

To date, the most reliable method of positive identification is the card with the magnetic stripe. If the technical problems can be worked out, however, voiceprints may prove to be even better.

Data Encryption. When sensitive data is transmitted to and from remote terminals, it must be encrypted (translated into a secret code) at one end and decrypted (translated back into plain text) at the other. Files also can be protected by encrypting the data before storing it and decrypting it after it has been retrieved.

Since it is impractical to keep secret the algorithms that are used to encrypt and decrypt data, these algorithms are designed so that their operation depends on a certain data item called the key. It is the key that is kept secret.

Even if you know all the details of the encrypting and decrypting algorithms, you cannot decrypt any messages unless you know the key that was used when they were encrypted.

For instance, the National Bureau of Standards has adopted an algorithm for encrypting and decrypting the data processed by federal agencies. The details of the algorithm have been published in the Federal Register. Plans are under way to incorporate the algorithm in special purpose microprocessors, which anyone can purchase and install in his computer.

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So the algorithm is available to anyone who bothers to look it up or buy one of the special purpose microprocessors. But the operation of the algorithm is governed by a sixty-four-bit key. Since there are about 10^{22} possible sixty-four-bit keys, no one is likely to discover the correct one by chance. And, without the correct key, knowing the algorithm is useless.

A recent important development involves what are called public- key cryptosystems.

In a public-key cryptosystem, each person using the system has two keys, a public key and a private key. Each person's public key is published in a directory for all to see; each person's private key is kept secret. Messages encrypted with a person's public key can be decrypted with that person's (but no one else's) private key. Messages encrypted with a person's private key can be decrypted with that person's (but no one else's) public key.

Protection through Software. The software of a computer system, particularly the operating system, can be designed to prevent unauthorized access to the files stored on the system. The protection scheme uses a special table called a *security matrix*.

Each row of the security matrix corresponds to a data item stored in the system. Each entry in the table lies at the intersection of a particular row and a particular column. The entry tells what kind of access the person corresponding to the row in which the entry lies has to the data item corresponding to the column in which the entry lies.

Usually, there are several kinds of access that can be specified. For instance, a person may be able to read a data item but not change it. Or he may be able to both read and modify it. If the data is a program, a person may be able to have the computer execute the program without being able either to read or modify it. Thus, people can be allowed to use programs without being able to change them or find out how they work.

Needless to say, access to the security matrix itself must be restricted to one authorized person.

Also, the software has to be reliable. Even the software issued by reputable vendors may be full of bugs. One or more bugs may make it possible for a person to circumvent the security system. The security provisions of more than one computer system have been evaded by high school and college students.

Restricting the Console Operator. Most computer systems are extremely vulnerable to the console operator. That's because the operator can use the switches on the computer's control panel to insert programs of his own devising, to read in unauthorized programs, or to examine and modify confidential information, including the security matrix. In the face of these capabilities, any software security system is helpless. Computer systems for handling sensitive information must be designed so that the console operator, like other users, works through the software security system and cannot override it. One solution is to incorporate the security system in firmware instead of software, so that unauthorized changes to it cannot be made easily.

Task 2. Discuss the following questions:

1. What is computer security?
2. What is the most serious problem: the loss of hardware, software, or the loss of data?
3. How does a computer system detect whether you are the person who should be granted access to it?
4. What are the shortcomings of each biometric means?
5. What is to prevent any user from copying PC software onto diskettes?
6. What steps can be taken to prevent theft or alteration of data?
7. What is the weakest link in any computer system?
8. Should a programmer also be a computer operator?
9. What is a security matrix?
10. Can the computer industry risk being without safeguards for security and privacy?

Task 3. Find English equivalents to the following words:

Забезпечити надійний захист інформації, загроза інформаційній безпеці, несанкціонований доступ, база даних, юридична відповідальність, протиправний акт, економічне шпигунство, зломник.

Task 4. Complete the sentences as in the text:

1. One of the most important problem for computer science is the providing -----
2. There are some legal ----- of computer protection.
3. Security of stored information from any unsanctioned ---
4. The main purpose of information protection is ----- from leak, theft, distortion of information.
5. Sometimes ----- get a job with a goal of personal enrichment.

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Task 5. Give synonyms to:

To encrypt, to secure, confidential, biometric, recognition, imposter, to meet requirements, to detect, to lose business, appearance, to incorporate, unless, to circumvent.

Give antonyms to:

Convenient, advocate, to reject, to encrypt, legitimate, messy, authorized, white-collar crime, to safeguard info, sensitive, to retrieve data, practical, by chance, private.

Task 6. Put the proper words into sentences:

foolproof, complicated, virus, unauthorized, crime, fingerprint, altering, messages.

1. Computer security is more ... today than it was in the past.
2. International literature tells lurid stories about computer viruses ... — about bank swindles, espionage, sent from one computer to destroy the contents of others.
3. Movies like War Games have dramatized the dangers from ... entry to the computer systems that control nuclear weapons.
4. Methods used in computer-based criminal activity range from switching or ... data as they enter the computer, to pulling self-concealing instruction into the software.
5. The person who develops a ... lock for the computer data will make a fortune.
6. ... is the name generally given to software that causes ... of computer files.
7. People must be taught that some kinds of help, such as assisting ... users with passwords are inappropriate.
8. According to a published article, the Mafia has kidnapped an IBM executive and cut off his finger because it needed his ... to breach a computer security system.
9. Data sent over communication lines can be protected by encryption, the process of scrambling ...
10. Firewall is security measures taken to block ... access to an Internet site.

Task 7. Mark the true sentences (T) and the false ones (F), according to the text.

1. The importance of information protection can be doubted.
2. “Hackers” are not so dangerous as ‘crackers’.
3. Poverty of “hackers” is the main reason of their computer crimes.

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4. The problem of information security is not so old.
5. Every organization should set protection system.

Task 8. Define the function of that (those) in the following sentences and translate them.

1. This system of information security is more efficient than that described in that journal. 2. Computers are devices that are capable of very rapid and accurate calculation. 3. We know that the term “computer crime” was first used in the early 70-s. 4. On that day the main character of committing computer crimes was found. 5. Some think that computer crimes can be defined as unlawful actions. 6. The information protection system was similar to that described previously. 7. There are computers that can do many jobs. 8. That Ch. Babbage invented the first computer is well known. 9. Since that time it represents a threat to information safety. 10. Different forms of computer criminality were found in their company similar to those used in Vidtec.

Task 9. Discuss the following questions:

1. What is the main problem of information protection?
2. When was the term “computer crime” used?
3. What is security concerned with?
4. Why have computer crimes spread so quickly?
5. What is the difference between “hackers” and “crackers”?
6. How can the main purpose of information protection be achieved?
7. What unlawful actions are implied by computer crimes?
8. What does statistics say about computer crimes?
9. Why are so many computer crimes committed?
10. Can you suggest the appropriate solution of the information protection?

Task 10. Translate the sentences into Ukrainian.

1. Web browsers warn you if the connection is not secure; they display a message when you try to send personal information to a server.

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2. Private networks use a software and hardware mechanism, called a 'firewall', to block unauthorized traffic from the Internet.
3. You have to type your user name and password to access a locked computer system or network.
4. An open padlock in Netscape Communicator indicates the page is not secure; a closed padlock indicates the page is encrypted (secure).

Task 11. Read the text and do the exercises below.

SECURITY AND PRIVACY ON THE INTERNET

There are a lot of benefits from an open system like the Internet, but we are also exposed to hackers who break into computer systems just for fun, as well as to steal information or propagate viruses. So how do you go about making online transactions secure?

Security on the Web

The question of security is crucial when sending confidential information such as credit card numbers. For example, consider the process of buying a book on the Web. You have to type your credit card number into an order form which passes from computer to computer on its way to the online bookstore. If one of the intermediary computers is infiltrated by hackers, your data can be copied. It is difficult to say how often this happens, but it's technically possible.

To avoid risks, you should set mail security alerts to high on your Web browser. Netscape Communicator and Internet Explorer display a lock when the Web page is secure and allow you to disable or delete “cookies”.

If you use online bank services, make sure your bank uses digital certificates. A popular security standard is SET (secure electronic transactions).

E-mail privacy

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Similarly, as your e-mail message travels across the net, it is copied temporarily on many computers in between. This means it can be read, by unscrupulous people who illegally enter computer systems.

The only way to protect a message is to put it in a sort of 'envelope', that is, to encode it with some form of encryption. A system designed to send e-mail privately is Pretty Good Privacy, a freeware program written by Phil Zimmerman.

Network security

Private networks connected to the Internet can be attacked by intruders who attempt to take valuable information such as Social Security numbers, bank accounts or research and business reports.

To protect crucial data, companies hire security consultants who analyze the risks and provide security solutions. The most common methods of protection are passwords for access control, encryption and decryption systems, and firewalls.

Virus protection

Viruses can enter a PC through files from disks, the Internet or bulletin board systems. If you want to protect your system, don't open e-mail attachments from strangers and take care when downloading files from the Web. (Plain text e-mail alone can't pass a virus.)

Remember also to update your anti-virus software as often as possible, since new viruses are being created all the time.

Preventative tips

Don't open email attachments from unknown people; always take note of the file extension.

Run and update antivirus programs, e.g. virus scanners.

Install a firewall, a program designed to prevent spyware from gaining access to the internal network.

Make backup copies of your files regularly.

Don't accept files from high-risk sources.

Use a digital certificate, an electronic way of proving your identity, when you are doing business on the Internet. Avoid giving credit card numbers.

Don't believe everything you read on the Net. Have a suspicious attitude toward its contents.

Task 11. Find the answers to these questions.

1. Why is security so important on the Internet?
2. What security features are offered by Netscape Communicator and Internet Explorer?
3. What security standard is used by most banks to make online transactions secure?
4. How can we protect and keep our e-mail private?

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5. What methods are used by companies to make internal networks secure?
6. Which ways can a virus enter a computer system?

Task 12. Complete these sentences by using a term from the text. Then write the words in the puzzle.

Users have to enter a p ... to gain access network.

1. You can a lot of f ... or public domain programs from

2. Hundreds of h ... computer systems every year.

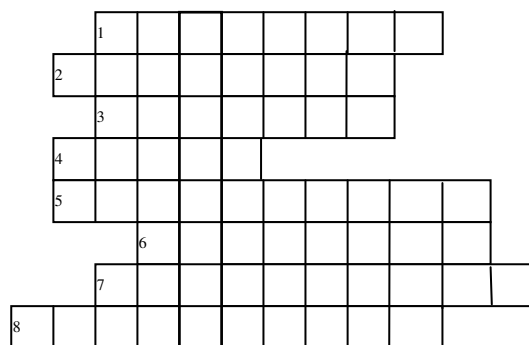
3. A computer v ... can your files and corrupt your hard disk.

4. The process of encoding data so that unauthorized users can't read the data is known as e

5. A f ... is a device which allows limited access to an internal network from the Internet.

6. You can include an a ... as part of your e-mail message.

7. This company uses d ... techniques to decode (or decipher) secret data.



to a

download the net.

break into

infect

Task 13. Fill in the gaps in these security tips with words from the box.

digital, certificate, malware, virus, scanner, spyware, firewall, antivirus

1. Malicious software, (1) ... , can be avoided by following some basic rules.
2. Internet users who like cybershopping should get a (2) ... , an electronic identity card.
3. To prevent crackers from breaking into your internal network and obtaining your data, install a (3) It will protect you from (4)
4. If you have been hit by a (5) ... , don't panic! Download a clean-up utility and always remember to use on (6) ... program, for example, a virus (7)

TEXT 19B. INTERNET SECURITY

Internet crime

The Internet provides a wide variety of opportunities for communication and development, but unfortunately it also has its dark side.

Crackers, or black-hat hackers, are computer criminals who use technology to perform a variety of crimes: virus propagation, fraud, intellectual property theft, etc.

Internet-based crimes include scam, email fraud to obtain money or valuables, and phishing, bank fraud, to get banking information such as passwords of Internet bank accounts or credit card details. Both crimes use emails OF websites that look like those of real organizations.

Due to its anonymity, the Internet also provides the right environment for cyberstalking, online harassment or abuse, mainly in chat rooms or newsgroups.

Piracy, the illegal copying and distribution of copyrighted software, information, music and video files, is widespread.

But by far the most common type of crime involves malware.

Malware: viruses, worms, trojans and spyware

Malware (malicious software) is software created to damage or alter the computer data or its operations. These are the main types.

- Viruses are programs that spread by attaching themselves to executable files or documents. When the infected program is run, the virus propagates to other files or programs on the computer. Some viruses are designed to work at a particular time or on a specific date, e.g. on Friday 13th. An email virus spreads by sending a copy of itself to everyone in an email address book.
- Worms are self-copying programs that have the capacity to move from one computer to another without human help, by exploiting security flaws in computer networks. Worms are self-contained and don't need to be attached to a document or program the way viruses do.
- Trojan horses are malicious programs disguised as innocent-looking files or embedded within legitimate software. Once they are activated, they may affect the computer in a variety of ways: some are just annoying, others are more ominous, creating a backdoor to the computer which can be used to collect stored data. They don't copy themselves or reproduce by infecting other files.
- Spyware, software designed to collect information from computers for commercial or criminal purposes, is another example of malicious software. It usually comes hidden in fake freeware or shareware applications downloadable from the Internet.

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Task 14. Identify the Internet crimes sentences (1-6) refer to. Then match them with the advice below (a-f).

1. Crackers try to find a way to copy the latest game or computer program.
 2. A study has revealed that half a million people will automatically open an email they believe to be from their bank and happily send off all their security details.
 3. This software's danger is hidden behind an attractive appearance. That's why it is often wrapped in attractive packages promising photos of celebrities like Anna Kournikova or Jennifer Lopez.
 4. There is a particular danger in Internet commerce and emails. Many people believe they have been offered a special gift only to find out later they have been deceived.
 5. 'Nimda' spreads by sending infected emails and is also able to infect websites, so when a user visits a compromised website, the browser can infect the computer.
 6. Every day, millions of children spend time in Internet chat rooms talking to strangers. But what many of them don't realize is that some of the surfers chatting with them may be sexual predators.
-
- a) People shouldn't buy cracked software or download music illegally from the Internet.
 - b) Be suspicious of wonderful offers. Don't buy if you aren't sure.
 - c) It's dangerous to give personal information to people you contact in chat rooms.
 - d) Don't open attachments from people you don't know even if the subject looks attractive.
 - e) Scan your email and be careful about which websites you visit.
 - f) Check with your bank before sending information.

LANGUAGE SKILLS DEVELOPMENT

Exercise 1. Put each verb into the correct form.

1. He (have) a bath when the phone rang.
2. He suddenly realized that he (travel) in the wrong direction.
3. He (talk) to people over the Internet at 8 o'clock yesterday.
4. You looked very busy when I saw you last night. What you (do)?
5. The boys (play) computer games when they (hear) their father's steps. They

immediately (switch) off the computer and (take) out their text-books.

7. A private e-mail account (cost) £10 a month last year.
8. They (visit) cybercafé very often last week.

Exercise 2. Choose the right variant.

- There _____ too much bad news on TV yesterday.
a) was c) is
b) are d) has been
- Could you give me _____ glass of _____ milk with _____ sandwich?
a) a, -, a c) a, the, -
b) the, the, - d) -, the, -
- On our trip to _____ Australia we crossed _____ Pacific Ocean.
a) the, - c) -, the
b) an, the d) -, -
- _____ you introduce me to your friend as soon as she?
a) do, comes c) will, comes
b) will, come d) are, comes
- There is no school uniform. The pupils can wear _____ they like.
a) whoever c) whenever
b) however d) whatever
- I'm going on a diet tomorrow. I need _____ some weight.
a) to lose c) to have lost
b) lose d) losing
- I spent _____ money last month that I had to go to the bank.
a) much c) so much
b) little d) so many
- When I was a child I _____ play football everyday.
a) use b) am used
c) was used d) used to
- I didn't need any help. I did it _____ my own.
a) for c) on

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d) by

10. The party_____by the time I_____there.

c) had finished, got

d) finished, had got

11. We are thinking seriously_____here if we can find a job.

c) moving

d) to move

12. She_____the key so I climbed through a window.

c) had left

d) hadn't left

13. The landlord was not_____about all the repairs.

c) think

d) prepared

14. By the time I retire I_____here for twenty years.

c) '11 have worked

d) work

15. I'll cook_____that you wash up.

c) even if

d) if only

16. The plane is expected_____an hour ago.

c) landing

d) land

17 I'm looking_____passing all my exams.

c) forward to

d) into

18. I'd rather you _____ anyone what I said.

c) not to tell

d) don't tell

19. We live in _____ small flat near _____ centre of _____ city.

c) a, the, a

d) a, a, a

20. She is very secretive. She never tells_____.

c) nobody nothing

d) anybody anything

21. My salary isn't_____yours.

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- a) as high c) so high
b) as high as d) so high as

22. Finally they managed to _____ him to change his mind.

- a) advise c) make
b) insist d) persuade

23. I could arrive on time _____ of the traffic jam.

- a) despite c) although
b) in spite d) however

24. Her father wouldn't let me _____ to her.

- a) speak c) to speak
b) speaking d) to have spoken

Exercise 3. Translate into English:

1. Ще в школі Білл Гейтс зумів підібрати ключ до системи захисту і постійно крав час експлуатації машини.
2. Порушення авторського права - незаконне копіювання, зокрема, програми.
3. Пароль - це набір символів, що використовуються в якості коду до обчислювальної системи або бази даних. Комп'ютерні хулігани можуть легко підібрати пароль, якщо він являє собою ініціали або послідовні ряди чисел.
4. Тягнуть все: особисті коди кредитних карток, авторські музичні твори, останні комп'ютерні ігри. Хакери називають це дільбою, решта - відвертим злодійством.
5. Якщо ви використовуєте комп'ютер в своєму бізнесі, то ви повинні мати антивірусні програми і оновлювати їх постійно.
6. Є два способи уникнути зараження комп'ютерними вірусами: не встановлювати нове програмне забезпечення без перевірки і не завантажувати безкоштовну інформацію з мережі.
7. Найшвидшими способами нелегального розповсюдження програмного забезпечення зараз є: крадіжка, злом і торгівля краденим.

WRITING

Look at the list of cybercrimes. Discuss these questions in small groups.

Crimes on the Internet

- Virus propagation
- Software piracy
- Stealing data and passwords by using a sniffer program
- IP spoofing (making one computer look like another to gain unauthorized access)
- Fraudulent use of credit card numbers
- Child pornography
- Violence and racist propaganda

Discuss these questions in small groups.

1. What type of crime is more dangerous?
2. What measures can be taken by governments against computer crime?
3. Personal information - address, salary, civil and criminal records - is usually kept or sold by governments and industries in electronic databases. Is personal privacy in danger?
4. Is it right to put restrictions on the contents of the Internet?

- *Write a summary of the discussion. Then present your view to the rest of the class.*
- Write a report “The best protection of information system”, using the connectors given below.

UNIT 20

DATA BACKUP AND RESTORE PROCEDURES

Vocabulary Bank Unit 20

Task 1. Read, write the translation and learn the basic vocabulary terms:

- | | |
|-----------------------|-------------------------|
| 1. arson | 27. pre-disaster state |
| 2. barebones | 28. registry |
| 3. bothersome | 29. repel |
| 4. bot-infected | 30. responsible |
| 5. content | 31. restitution |
| 6. copy routines | 32. restore procedures |
| 7. cur | 33. rightful owner |
| 8. dishonest adware | 34. root directory |
| 9. distribution | 35. rootkit |
| 10. end-user license | 36. schedule backup |
| 11. failures | 37. security breach |
| 12. feasible | 38. simplified |
| 13. fit | 39. spyware |
| 14. flood | 40. startup disk |
| 15. fritz | 41. stiff penalty |
| 16. fuss | 42. subfolders |
| 17. harsh | 43. threat |
| 18. high-tech twist | 44. to be accused |
| 19. hostile intent | 45. to be tolerated |
| 20. innocuous | 46. to bind together |
| 21. intrusions | 47. to bother |
| 22. law maker | 48. to combat |
| 23. non-shared folder | 49. to defend |
| 24. off-site terminal | 50. to justify |
| 25. perspective | 51. to mastermind |
| 26. prank | 52. to reproduce itself |

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DEVELOPMENT.

53. to vilify

54. unwanted

55. unattended

56. virus trigger

TEXT 20A. DATA BACKUP AND RESTORE PROCEDURES

Backup and restore procedures

Have you ever mistakenly copied an old version of a document over a new version? Has your computer's hard disk drive gone on the fritz? Did a virus wipe out your files? Has lightning “fried” your computer system? These kinds of data disasters are not rare; they happen to everyone. You can't always prevent them, so you need a backup plan that helps you recover data that's been wiped out by operator error, viruses, or hardware failures.

A backup is a copy of one or more files that has been made in case the original files become damaged. A backup is usually stored on a different storage medium from the original files. For example, you can back up files from your hard disk to a different hard disk, a writable CD or DVD, tape or Web site.

A good backup plan allows you to restore your computing environment to its pre-disaster state with a minimum of fuss. Unfortunately, no single backup plan fits everyone's computing style or budget. You must devise your own backup plan that's tailored to your particular computing needs.

A **full-system backup** contains a copy of every program, data, and system file on a computer. The advantage of a full-system backup is that you can easily restore your computer to its pre-disaster state simply by copying the backup files to a new hard disk. A full-system backup takes a lot of time, however, and automating the process requires a large-capacity tape backup device or a second hard disk drive.

A workable alternative to a full system backup is a “selective” backup that contains only your most important data files. The disadvantage of this backup strategy is that because you backed up only data files, you must manually reinstall all your software before restoring your data files.

If your strategy is to back up your important data files, the procedure can be simplified if you've stored all these files in one folder or its subfolders.

In addition to data files you create, a few other types of data files might be important to you. Consider making backups of these files:

- Internet connection information
- E-mail folders
- E-mail address book
- Favorite URLs
- Downloads

Windows users often hear a *variety* of rumors about backing up the Windows Registry. The Registry, as it is usually called, is an important group of files the Windows operating system uses to store configuration information about all the devices and software installed on a computer system.

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As simple as it sounds, backing up the Registry can present a bit of a problem because the Registry is always open while your computer is on. Windows users whose backup plans encompass all files on the hard disk must *make sure* their backup software provides an option for including the Windows Registry.

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Your backup *schedule* depends on how much data you can *afford* to lose. If you're working on an important project, you might want to back up the project files several times a day. *Under normal use*, however, most people schedule a once-a-week backup. If you work with a To Do list, use it to remind yourself when it is time to make a backup.

Store your backups in a safe place. Don't keep them at your computer desk because a fire or flood that damages your computer could also wipe out your backups. Storing your backups at a different location is the best idea, but at least store them in a room apart from your computer.

Backup devices

The backup device you select depends on the value of your data, your current equipment, and your budget. Most computer owners use what they have — a writable CD drive, Zip drive.

The major disadvantage of backing up your data on CDs and DVDs is that the writing process is slow — slower than writing data to tape or a removable hard disk. Further, although it is *feasible* to back up your entire system on a series of CDs or DVDs, you would have to use special backup software, monitor the backup process, and switch disks occasionally. CDs and DVDs are more practical for backing up a select group of important data files.

Zip disks with 100 MB or 250 MB capacity are sufficient for backups of documents and most digital graphics files. Several 750 MB Zip disks might be enough for backing up all your data files and could be feasible for a full-system backup if you have not installed lots of application software.

A second hard disk drive is a good backup option — especially if it has equivalent capacity to your main hard disk. This capacity allows the backup process to proceed unattended because you won't have to swap disks or CDs. Speed-wise, a hard disk is faster than tape, CD, or DVD drives. Unfortunately, like your computer's main hard disk, a backup hard disk is susceptible to head *crashes*, making it one of the least reliable storage options.

Network and internet backup

If your computer is connected to a local area network, you might be able to use the network server as a backup device. Before *entrusting* your data to a server, check with the network administrator to make sure you are allowed to store a large amount of data on the server. Because you might not want strangers to access your data, you should store it in a password-protected, non-shared folder. You also should make sure the server will be backed up on a regular basis so that your backup data won't be wiped out by a server crash.

Several Web sites offer fee-based backup storage space. When needed, you can simply download backup files from the Web site to your hard disk. These sites are practical for backups of your data files, but space limitations and download times make them impractical for a full-system backup. Experts

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suggest that you should not rely on a Web site as your only method of backup. If a site goes out of business or is the *target* of a Denial of Service attack, your backup data might not be accessible.

Backup software

To make a backup, you can use **backup software** — a set of utility programs designed to back up and restore files. Backup software usually includes options that make it easy to schedule periodic backups, define a set of files that you want to regularly back up, and automate the restoration process.

Backup software differs from most copy routines because it typically compresses all the files for a backup and places them in one large file. Under the direction of backup software, this file can spread across multiple tapes if necessary. The file is indexed so that individual files can be located, uncompressed, and restored.

Boot disks

A *boot* disk is a floppy disk or CD containing the operating system files needed to boot your computer without accessing the hard disk. A barebones boot disk simply loads the operating system kernel. It is needed, if your hard disk fails or a virus wipes out the boot sector files on your hard disk, you will not be able to use your normal boot procedure.

To create an MS-DOS boot disk, insert a blank floppy disk in drive A. Open My Computer or Windows Explorer, and then right-click the Drive A icon. Select Format and check the box labeled Create an MS-DOS startup disk.

Task 2. Match the beginnings of the sentences in the first column with the endings in the second one.

- | | |
|---|---|
| 1. A backup is a copy of one or more files | a) to restore your computing environment to its pre-disaster state with a minimum of fuss. |
| 2. A good backup plan allows you | b) and automating the process requires a large capacity tape backup device or a second hard disk drive. |
| 3. You must devise your own backup plan | c) that is tailored to your particular computing needs. |
| 4. A full-system backup takes a lot of time | d) that has been made in case the original files become damaged. |
| 5. Your backup schedule | e) value of your data, your current |

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depends on how much data _____ equipment, and your budget.

6 The backup device you select _____ f) you can afford to lose.

depends on the

7. If your computer is connected _____ g) you might be able to use the network
to a local area network _____ server as a backup device.

Task 3. Put the appropriate unscrambled words into the sentences on the right.

1. Because you backed up only data files you must manually _____ all
cov your software before restoring your data files.
- reer 2. You need a backup plan that helps you _____ data that's been wiped
evit out by operator error, viruses or hardware _____.
- artalen 3. Store your backups in a safe place or a fire or flood that _____ your
lailt computer could also wipe out your backup.
- snerr 4. A workable _____ to a full system backup is a selective backup that
em contains only your most important data files.
- agad 5. A backup is usually stored on a different storage _____ from the
mu original files.
- mide

Task 4. Fill in the blanks choosing from the variants given.

1. A backup is usually ... (*detected/stored*) on a different storage medium from the original files.
2. A workable alternative to a full system backup is a ... (*selective/overall*) backup that contains only your most important data files.
3. Storing your backups at a different locations is ... (*not a good/the best*) idea.
4. The backup device you select depends on ... (*how much data you can afford to lose/the value of your data/your current equipment and your budget*).
5. A full-system backup ... (*can be done in no time/takes a lot of time*).
6. Under normal use most people schedule ... (*an everyday backup/once-a-week backup*).

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Task 5. Match the beginnings and the endings of the instructions/steps given and put them into correct order.

- | | |
|--|---|
| 1. Your backup schedule depends on | a) that is tailored to your particular computing needs. |
| 2. No single backup plan fits | b) most people schedule a once-a-week backup. |
| 3. You can't always prevent data disasters | c) how much data you can afford to use. |
| 4. You must devise your own backup plan | d) everyone's computing style or budget. |
| 5. Under normal use | e) but at least store them in a room apart from your computer. |
| 6. The best idea is storing your backups at a different location | f) so you need a backup plan that helps you recover data that's been wiped out. |

Task 6. Fill in the gaps in the text.

A backup is a copy of one or more files that has been made in case the original files become damaged. For safety, a backup is usually stored on a different storage medium from the original files. A good backup plan allows you to ___ your computing environment to its pre-disaster state with a minimum of fuss.

No single backup plan fits everyone's computing style or budget. Your personal backup plan depends on the files you need to back up, the hardware you have available to make backups, and your backup software. In any case, it is a good idea to back up the Windows ___ and make sure your files are free of ___. Backups should be stored in a safe place, away from the computer.

Backups can be recorded on floppy disks, writable CDs and DVDs, networks, Web sites, a second hard disk, or tapes. Many computer owners depend on writable CDs for backups, and use My Computer or Windows ___ to simply select files and copy files to the backup. ___ drives and backup software are typically used in business situations when a full-system backup is desirable. Backup software differs from most copy routines because it ___ all the files for a backup into one large file.

In addition to file backups, you should have a ___ disk containing the operating system files and settings needed to start your computer without accessing the hard disk.

Task 7. Speaking. Discuss the following questions.

1. Why do you need to make backups?
2. What are the major strategies and plans of backup? What does their choice depend on?
3. What are the advantages and disadvantages of different backup devices?
4. What can you say about network and internet backup?
5. What can you say about backup software?
6. What is a boot disk? How can it be created?

Text 20B. MALWARE AND COMPUTER CRIME

Computer crime encompasses a broad range of illegal activities. It may be divided into two categories: 1) crimes that target computer networks or devices directly (malware, denial-of-service (DoS) attacks and computer viruses) 2) crimes facilitated by computer networks or devices (cyber stalking, fraud and identity theft, phishing scams).

Malicious software (malware) is software designed to infiltrate a computer system without the owner's informed consent. Malware includes computer viruses, worms, Trojan horses, most rootkits, spyware, dishonest adware, and other malicious and unwanted software.

Many early infectious programs were written as experiments or pranks. Hostile intent can be found in programs designed to cause harm or data loss. Many DOS viruses were designed to destroy files on a hard disk, or to corrupt the file system.

However, since the rise of widespread broadband Internet access, malicious software has come to be designed for a profit motive.

Infected "zombie computers" are used to send email spam, to host contraband data such as child pornography, or to engage in distributed denial-of-service attacks.

The best-known types of malware, viruses and worms, are known for the manner in which they spread. A virus requires user intervention to spread, whereas a worm spreads automatically. It can reproduce itself and spreads from one computer to the next over a network. Before Internet access became widespread, viruses spread on personal computers by infecting programs or the executable boot sectors of floppy disks. With the rise of the MS Windows platform in the 1990s it became possible to write infectious code in the macro language of Microsoft Word and similar programs.

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For a malicious program to accomplish its goals, it must be able to do so without being shut down, or deleted by the user or administrator of the computer on which it is running. When a malicious program is disguised as something innocuous or desirable, users may install it. This is the technique of the Trojan horse or Trojan. One of the most common ways that spyware is distributed is as a Trojan horse, bundled with a piece of desirable software that the user downloads from the Internet. When the user installs the software, the spyware is installed alongside. Spyware authors who attempt to act in a legal fashion may include an end-user license agreement that states the behavior of the spyware in loose terms, which the users are unlikely to read or understand.

Once a malicious program is installed on a system, it is essential that it stay concealed, to avoid detection and disinfection. Techniques known as rootkits allow this concealment, by modifying the host operating system so that the malware is hidden from the user. Rootkits can prevent a malicious process from being visible in the system's list of processes. Some malicious programs contain routines to defend against removal, not merely to hide themselves, but to repel attempts to remove them.

A computer can be a source of evidence. Even though the computer is not directly used for criminal purposes, it is an excellent device for record keeping, particularly given the power to encrypt the data. This evidence can be obtained and decrypted and be of great value to criminal investigators.

As malware attacks become more frequent, attention has begun to shift from viruses and spyware protection, to malware protection, and programs have been developed to specifically combat them. They can provide real time protection against the installation of malware software on a computer by scanning all incoming network data for malware and blocks any threats. They also scan the contents of the windows registry, operating system files, and installed programs on a computer, allowing the user to choose which files to delete or keep.

Task 8. Find the equivalents in the text:

1) широкий діапазон незаконної діяльності 2) файли на вінчестері 3) розсилати спам по електронній пошті 4) розміщувати заборонені дані 5) участь користувача для розповсюдження 6) він може відтворювати себе 7) маскується під потрібну програму 8) захищає від видалення 9) свідчення можуть бути отримані і розшифровані 10) дозволяючи користувачеві вибирати файли для видалення.

Task 9. Make questions to the underlined words:

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1) It is divided into two categories. 2) In XXI century Internet access became widespread. 3) The spyware will be installed alongside with the desirable program. 4) They provide real time protection against the installation of malware. 5) Antivirus programs have been developed to combat malicious software.

Task 10. Fill the gaps:

Computer crime ____ broad range of illegal activities. Criminals target computer networks or devices directly using malware and _____. They can also use _____ or devices for cyber stalking, fraud and identity theft, phishing scam. Malware includes computer viruses, worms, Trojan horses, _____, spyware and adware. These programs are written to destroy files on a hard disk, to _____ the file system, to send email spam, to host contraband data or to engage in DoS attacks. Malware is divided into _____ categories. _____ requires user intervention to spread. _____ spreads automatically from one computer to the next over a network. _____ is disguised as desirable program and users may install it. Rootkits can _____ the installed malware and defend against removal. Antivirus software has been developed to _____ malicious programs.

Task 11. Critical thinking. Read the article and express your opinion on the problem.

COMPUTER CRIME

It doesn't take any special digital expertise to mastermind some computer crimes. Setting fire to a computer doesn't require the same finesse as writing a stealthy virus, but both can have the same disastrous effect on data. "Old-fashioned" crimes, such as arson, that take a high-tech twist because they involve a computer can be prosecuted under traditional laws.

Traditional laws do not, however, cover the range of possibilities for computer crimes. Suppose a person unlawfully enters a computer facility and steals backup tapes. That person might be prosecuted for breaking and entering. But would common breaking and entering laws apply to a person who uses an off-site terminal to "enter" a computer system without authorization? And what if a person copies a data file without authorization? Has that file really been "stolen" if the original remains on the computer?

Many countries have computer crime laws that specifically define computer data and software as personal property. These laws also define as crimes the unauthorized access, use, modification, or

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disabling of a computer system or data. But laws don't necessarily stop criminals. If they did, we wouldn't have to deal with malicious code and intrusions.

A 1995 high-profile case involved a computer hacker named Kevin Mitnick, who was accused of breaking into dozens of corporate, university, government, and personal computers. Although vilified in the media, Mitnick had the support of many hackers and other people who believed that the prosecution grossly exaggerated the extent of his crimes.

Nonetheless, Mitnick was sentenced to 46 months in prison and ordered to pay restitution in the amount of \$4,125 during his three-year period of supervised release. The prosecution was horrified by such a paltry sum – an amount that was much less than its request for \$1,5 million in restitution.

Forbes reporter Adam L. Penenberg took issue with the 46-month sentence imposed by Judge Marianne Pfaelzer and wrote, “This in a country where the average prison term for manslaughter is three years. Mitnick’s crimes were curiously innocuous. He broke into corporate computers, but no evidence indicates that he destroyed data. Or sold anything he copied. Yes, he pilfered software — but in doing so left it behind. This world of bits is a strange one, in which you can take something and still leave it for its rightful owner. The theft laws designed for payroll sacks and motor vehicles just don’t apply to a hacker.”

The U.S. Patriot Act and the Cyber-Security Enhancement Act carry even stiffer penalties – anywhere from 10 years to life in prison.

A CNET reporter questions the harshness of such penalties: “What bothers me most is that here in the United States, rapists serve, on average, 10 years in prison. Yet if, instead of assaulting another human being, that same person had released a virus on the Net, the criminal would get the same or an even harsher sentence.”

Law makers hope that stiff penalties will deter cyber criminals. U. S. Attorney John McKay is quoted as saying, “Let there be no mistake about it, cyber-hacking is a crime. It harms persons, it harms individuals, it harms businesses.

These cases illustrate our culture's ambivalent attitude toward computer hackers. On the one hand, they are viewed as evil cyber terrorists who are set on destroying the glue that binds together the Information Age. From this perspective, hackers are criminals who must be hunted down, forced to make restitution for damages, and prevented from creating further havoc.

From another perspective, hackers are viewed more as Casper the Friendly Ghost in our complex cyber machines – as moderately bothersome entities whose pranks are tolerated by the computer community, along with software bugs. Seen from this perspective, a hacker's pranks are part of the normal course of study that leads to the highest echelons of computer expertise.

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- **What do you think?**

1. Should a computer virus distribution sentence carry the same penalty as mans laughter?
2. Should it be a crime to steal a copy of computer data while leaving the original data in place and unaltered?
3. Should hackers be sent to jail if they cannot pay restitution to companies and individuals who lost money as the result of a prank?
4. Do you think that a hacker would make a good consultant on computer security?

Task 12. Do the tasks in the following test.

1. A (n) ____ is a copy of one or more files that has been made in case the original files become damaged.
2. The Windows ____ is an important group of files that the Windows operating system uses to store configuration information about all the devices and software installed on a computer system.
3. The main directory of a disk is referred to as the ____ directory.
4. The main hard disk drive on a PC is often referred to as “drive C”. (*True/False*)
5. A filename extension is usually related to a file ____, which is the arrangement of data in a file and the coding scheme used to represent the data.
6. Antivirus software is 100% reliable when it comes to protecting your computer from viruses. (*True/False*)
7. A file specification or path typically includes all of the following information EXCEPT ____.
a) the file author b) the file name c) the file extension d) the drive letter
8. ____ software is a set of utility programs that looks for and eradicates viruses, worms, and Trojan horses.
9. File-naming ____ are a set of rules for naming files.
10. The easiest way to convert a file from one format to another is to find an application program that works with both file formats. (*True/False*)
11. Deleting a file’s icon from a directory does not necessarily remove the data from the disk. (*True/False*)
12. A computer ____ is a set of program instructions that attaches itself to a file, reproduces itself, and spreads to other files.

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13. A root directory typically contains smaller ____, often depicted as folders in graphical user interfaces.
14. A (n) ____ is a computer program that seems to perform one function while actually doing something else.
15. A virus can be spread if people distribute infected files by ____.
 - a) exchanging disks or CDs
 - b) sending e-mail attachments
 - c) downloading software from the Web
 - d) all of the above
16. You should update your antivirus software regularly. (*True/False*)
17. Bot-infected computers linked together into a network is called a(n) ____.
18. A virus ____ is a section of the virus program that can be used to identify a known virus.
19. Computer virus trigger events are often tied to a specific date. (*True/False*)
20. The file ____ helps you keep track of the most current version of your file when you have saved several versions.

LANGUAGE SKILLS DEVELOPMENT

Exercise 1. Translate the following sentences paying attention to Absolute Participle Clause

My colleague being away, I had to take the decision myself.

Оскільки мій товариш по роботі був відсутній, мені довелося самому прийняти рішення.

We continued our work, with our laboratory assistants helping us.

Ми продовжували свою роботу, а наші лаборанти допомагали нам.

1. My boss being away, I didn't go to work. 2. The disk removed, the computer can be switched off. 3. The new browser having been studied in detail, the committee decided to introduce it at the exhibition. 4. My colleague being away, I had to take the decision myself. 5. There being many people in the conference hall, we couldn't enter. 6. We continued our work, with our laboratory assistants helping us. 7. The new wireless network is very expensive, we hardly buy it. 8. The technology designed, we made a great progress in the field of IT. 9. The research being carried out, the virus can't destroy our equipment. 10. Other protecting systems being cumbersome, we use the old one. 11. The new software

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having been installed, I felt a sort of satisfaction. 12. With the new virus being created, we need the patches for Windows. 13. With a sound generated every time you destroy one of the enemies, the game becomes more interesting. 14. The computer crashed, I lost all my afternoon's work. 15. The information stored, you can access it any time you need it.

Exercise 2. Choose the right form of Participle and translate the sentences.

1. The net was supposed to be about community, about people with common interests finding/found each other in the limitless tracts of cyberspace and connecting/connected like never before.
2. The nodes will link to the net via broadband links and share that access via antenna siting/sited on the roofs of several buildings.
3. The company administering/ administered the .info domain could face legal challenges from those denying/ denied a chance to apply for some generic .info domains.
4. A group of researchers at Bell labs have made tiny functioning/functioned transistors a million times smaller than a grain of sand.
5. Each molecular transistor is 10 times smaller than any components creating/ created with today's most advancing/ advanced chip making/ made techniques.
6. In the media you can often find articles telling/ told of hackers breaking/ broken into computer systems and websites stealing/ stolen and destroying/ destroyed information.
7. Hacker is a computer user breaking/ broken a system's security and stealing/ stolen valuable information.
8. Hackers will often write open-source code allowing/ allowed others to see what they have done.
9. The hacking contest was not run fairly and proved nothing about the integrity of the proposing/ proposed technologies.
10. Chemically producing/ produced components are microscopical, faster and more efficient than today's silicon products made using/ used lithography.
11. Technologies such as the Internet, PCs and wireless telephony have turned the globe into an increasingly interconnecting/ interconnected network of individuals, organizations and governments communicating/ communicated and interacting/ interacted with each other with through a variety of channels.
12. Using/ used effectively, information and communication technologies can help to create training/ trained, educating/ educated and healthy workforce.
13. Netscape Gecko control how WebPages appears on the screen and supports accepting/ accepted web standards such as HTML, XML, Cascading Style Sheets and JavaScript.

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14. The method using/ used depends on the length to be measured.
15. An intelligent network consists of distributing/ distributed signaling network of switches, databases and dedicating/ dedicated computer servers.

Exercise 3. Choose the right variant.

1. Five days_____week I go to work by train.
a) of c) in
b) the d) a
2. While I was skiing I_____and broke my wrist.
a) fell c) fall
b) was falling d) have fallen
3. I_____what you are talking about.
a) am not understanding c) didn't understand
b) not understand d) don't understand
4. He has_____time left.
a) many c) few
b) much d) a few
5. He_____on his report since morning. He_____the first two sentences.
a) has been working, has written
b) has worked, wrote
c) had worked, had written
d) was working, wrote
6. I don't care who comes to the party. You can bring_____ you like.
a) whoever c) whenever
b) whatever d) however
7. You need to score_____55 % to pass the exam.
a) at c) the latest
b) at least d) the least
8. That's_____restaurant I've ever been to.
a) worst c) the worst
b) bad d) worse
9. When I was younger I_____watch a lot of TV.

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- a) use c) used
b) am used d) used to
10. The road is icy, so drive_____.
- a) care c) careful
b) carefully d) carelessly
11. You can't blame me_____what happened.
- a) of c) for
b) on d) in
12. It's no_____trying to persuade her.
- a) point c) use
b) advantage d) benefit
13. As we approached we_____smell something burning.
- a) can c) may
b) were able d) could
14. It's time we_____a holiday. We deserve a break.
- a) had c) to have
b) have d) are having
15. I don't think you can_____on him doing this task.
- a) rely c) hope
b) expect d) dependent
16. I am going to finish this composition even if I_____up all night.
- a) had to stay c) have to stay
b) 'll have to stay d) 'll stay
17. We've taken on twenty new_____this year already.
- a) employing c) employees
b) employer d) employers
18. How can she afford_____on holiday twice a year?
- a) to go c) go
b) going d) to be going
19. He apologized_____making such a noise.
- a) of c) for
b) against d) from
20. I'd rather you_____with us.
- a) come c) coming

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- b) to come d) came
21. Did _____ police find _____ person who stole _____ bicycle?
- a) the, the, the c) the, a, the
- b) a, the, the d) the, the, a
22. The prisoners refused to eat _____.
- a) something c) anything
- b) some d) nothing
23. _____ he waited _____ nervous he became.
- a) long, much c) the longer, the more
- b) longer, more d) longest, most
24. _____ he wasn't keen on the idea, he agreed to participate.
- a) although c) despite
- b) however d) in spite of
25. It is always difficult for older people _____ job.
- a) finding c) to find
- b) find d) to have found
26.sewage into oceans and rivers is a serious form of pollution.
- a) having dumped c) dumped
- b) being dumped d) dumping
27. Since ancient times, iron _____ to human beings.
- a) is known c) is being known
- b) has been known d) has been knowing
28. The President worked so hard that his _____ away from his desk was rare.
- a) has been c) being
- b) was d) to be
29. You'd better _____ from work tomorrow.
- a) not be absent c) not to be absent
- b) not to absent d) not absenting
30. Last year floods in Europe destroyed _____ 2,000 buildings.
- a) many c) just as
- b) the same as d) as many as
31. Who _____ in the office when I _____ you?
- a) were you talking to, phoned

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b) did you talk to, phoned

c) were you talking, phoned

d) talked to, was phoning

32. You'll never jump three metres_____hard you try.

a) whoever

c) whenever

b) however

d) wherever

33. He bought me_____expensive ring he could find.

a) at last

b) at least

c) the latest

d) the least

34. I'll put on an overcoat in case it_____.

a) is raining

c) rains

b) rain

d) will rain

35. I'm used_____my own shirts. I have to look after myself.

a) ironing

c) iron

b) to ironing

d) to iron

36. We can't offer you a sandwich because we've run_____ bread.

a) away from

c) out from

b) off with

d) out of

37. They want_____for an interview next week.

a) she will come

c) that she comes

b) her coming

d) her to come

38. She carried on dancing in_____of the pain.

a) spirit

c) split

b) spite

d) despite

39. We_____wear what we liked at school when we were young.

a) can

c) weren't allowed

b) are allowed to

d) weren't allowed to

40. I wish we_____a few more days, I'd like to see more sights.

a) had had

c) had

b) have

d) '11 have

41. There was not enough_____for four in the flat.

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- a) room c) area
b) place d) measurement
42. The train_____have arrived or I would have seen her.
a) mustn't c) should
b) can't d) should not
43. I can't imagine_____a computer at work now.
a) not having c) have
b) having d) to have
44. The arrested man was suspected_____robbing a bank.
a) for c) in
b) of d) against
45. I'd rather you_____the dinner now.
a) cook c) cooking
b) to cook d) cooked
46. We live in _____ old house in _____ middle of _____ village.
a) an, the, the c) an, a, the
b) a, the, the d) an, the, a
47. Did the children enjoy_____when they were on holiday?
a) themselves c) yourself
b) ourselves d) yourselves
48. _____goods you sell _____profit you'll make.
a) many, much c) the more, the more
b) more, more d) much, many
49. They_____Great Britain several times but this will be their first trip to Ireland.
a) visit c) have visited
b) are visiting d) have been visiting
50. I doubt if she_____you. You've really changed.
a) recognized c) 'll recognize
b) had recognized d) has recognized

Exercise 4. Choose the right variant.

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1. My sister ... interested in medicine ever since she was a child.
a) is c) has been
b) was d) will be
2. When I started working for this company, I ... an architect for six years already.
a) has been c) was
b) had been d) have been
3. I'll take the decision after I ... to the manager.
a) speak c) has spoken
b) will speak d) spoke
4. Look! That window just ... again!
a) has broken c) has been broken
b) broke d) break
5. This cafe used to be much ... before they opened the new one next door.
a) popular c) most popular
b) more popular d) the most popular
6. My company has treated me well, and given me ... chance to succeed.
a) every c) each
b) all d) either
7. There may be no need to go to school in the future, since everyone will have a computer ...
a) - c) in
b) at d) for
8. The pilot ... land the plane on only one engine.
a) could c) must
b) was able to d) need
9. ... marriages end in divorce these days.
a) many c) few
b) much d) a few
10. You have to learn to accept ... ups and downs of life.
a) the c) a
b) - d) this
11. Belarus has always been rich in ... talented and gifted people.
a) an c) the

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b) a d) -

12. Where ... my scissors? I can't find them.

a) is c) was

b) are d) has been

13. I don't believe in ghosts, so I'm not afraid ... them of course.

a) of c) in

b) at d) –

14. The two Prime Ministers ... discuss the current economic crisis tomorrow.

a) can c) has to

b) may d) are to

15. I think he was lonely because he had ... friends and none of his neighbours ever spoke to him.

a) few c) many

b) a few d) much

16. The journey to Paris had taken much ... before they built the Channel Tunnel.

a) longer c) long

b) the longest d) longest

17. A small sum of money ... from the cash some days ago and nobody knows who did it.

a) steal c) is stolen

b) stole d) was stolen

18. Man ... first in East Africa.

a) is discovered c) discover

b) discovered d) was discovered

19. Why are you so dirty? - I ... in the garden.

a) dig c) was digging

b) dug d) have been digging

20. Next summer we ... here for 20 years.

a) will live c) will be living

b) will have been living d) are living

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Exercise 5. Choose the right variant from the words in brackets.

1. My brother has got (*a lot, a lot of, much*) stamps in his collection but I have (*few, little, a little*) in (*my, mine, our*).
2. The article (*publish*) in tomorrow's newspaper. I'll bring you the paper if I (*be able*) to buy it.
3. The accident looked (*serious, seriously*), but fortunately (*somebody, nobody, anybody*) (*injure*).
4. Where did you buy (*this, these, that*) trousers? - I bought (*it, them, that*) in the (*near*) department store some days ago. They still (*sell*) (*they, them, it*). I just (*be*) there.
5. Oh, Kate! I'm glad to see you. I (*not, see*) you for ages. You look (*nice, nicely*) and (*happy, happily*) today. - I feel much (*good*) than yesterday. I (*work*) hard this term and by the end of next week I (*pass*) all my exams, then I (*go*) on holiday.
6. I asked my teacher if we (*be able*) to read (*a/an, the, -*) English books in (*a/an, the, -*) original soon.
7. I hope you (*inform*) us when the documents (*sing*) (*with, by*) the boss.
8. The secretary (*know*) when the president (*take*) the final decision (*at, by, on*) this issue?
9. I want to know if the latest model of refrigerators you are going to produce (*be*) of higher quality (*than, then*) the previous one.
10. He asked the manager if they (*settle*) the price problem (*by, in, through*) the end of next month.
11. She didn't even ask me if I (*help*) her to do (*these, this*) translation, and I didn't know when I (*have*) spare time to do it.
12. The girl asked her mother when she (*buy*) her (*the other, another*) parrot, as their old one (*fly*) away.
13. The manager asked (*a/an, the, -*) secretary if she (*be able to*) arrange everything herself for the reception of the foreign delegation.
14. My friend wanted to know if I (*buy*) a flat in a new district or in (*a/an, the, -*) centre of the city. But as I (*not, save up*) for any of them yet, I told him (*something, nothing, few*) about my plans.
15. The guide asked the tourists if they (*want*) to see the sights of (*a/an, the, —*) Tower when they (*arrive*) (*to, in, at*) London.

WRITING

Projects. Choose and perform one of the projects given.

UNIT 20. DATA BACKUP AND RESTORE PROCEDURES. LANGUAGE SKILLS DEVELOPMENT.

1. Select one of the following statements and argue for or against it:

- People have the “right” to hone their computing skills by breaking into computers.
- A person who creates a virus is perfectly justified in releasing it if the purpose is to make everyone aware of these security breaches.
- Computer crimes are no different from other crimes, and computer criminals should be held responsible for the damage they cause.

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UNIT 21

DATABASES

Vocabulary Bank Unit 21

Task 1. Read, write the translation and learn the basic vocabulary terms:

- | | |
|--------------------------------|-------------------------------------|
| 1. an indexed filing cabinet | 28. meaningful |
| 2. averaging | 29. merging |
| 3. background | 30. messy |
| 4. bearing (n) | 31. pay check |
| 5. BLOB (binary large objects) | 32. percentage |
| 6. Boolean data | 33. perspective |
| 7. card index system | 34. redundancy |
| 8. challenging task | 35. relational database |
| 9. commission field | 36. sophisticated query languages |
| 10. consistent position | 37. SQL (structured query language) |
| 11. conversion routine | 38. table's sort key |
| 12. decision making | 39. term parameter |
| 13. enormous | 40. timely |
| 14. envision | 41. to accomplish |
| 15. essential | 42. to compile |
| 16. export routine | 43. to concise |
| 17. extensive | 44. to contain |
| 18. fixed-length | 45. to delineate |
| 19. flexibly | 46. to prevent |
| 20. fluency | 47. to retrieve |
| 21. inaccurate | 48. to specify |
| 22. integer | 49. to stand for |
| 23. intricacies | 50. to think ahead |
| 24. invoice | 51. treatment |
| 25. joining tables | 52. user-defined |
| 26. lookups | 53. validation rules |
| 27. manual filing system | 54. validity |

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55. variable-length

56. well-defined

TEXT 21A. DATABASE DESIGN

With a database you can store, organize and retrieve a large collection of related information on computer. If you like, it is the electronic equivalent of an indexed filing cabinet. Let us look at some features and applications.

Information is entered on a database via fields. Each field holds a separate piece of information, and the fields are collected together into records. For example, a record about an employee might consist of several fields which give their name, address, telephone number, age, salary and length of employment with the company. Records are grouped together into files which hold large amounts of information. Files can easily be updated: you can always change fields, add new records or delete old ones. With the right database software, you are able to keep track of stock, sales, market trends, orders, invoices and many more details that can make your company successful.

Another feature of database programs is that you can automatically look up and find records containing particular information. You can also search on more than one field at a time. For example, if a managing director wanted to know all the customers that spend more than £7,000 per month, the program would search on the name field and the money field simultaneously.

A computer database is much faster to consult and update than a card index system. It occupies a lot less space, and records can be automatically sorted into numerical or alphabetical order using any field.

The best packages also include networking facilities which add a new dimension of productivity to businesses. For example, managers of different departments can have direct access to a common database, which represent an enormous advantage. Thanks to security devices, you can share part of your files on a network and control who sees the information. Most aspects of the program can be protected by user-defined passwords. For example, if you wanted to share an employee's personal details, but not their commission, you could protect the commission field. In short, a database manager helps you control the data you have at home, in the library or in your business.

The key to an effective database is its initial design. In a well-designed database, data can be flexibly manipulated to produce timely, meaningful, and accurate information for decision making. Bad database design can lead to messy database, lost records, and inaccurate data. The goal of database design is to store information so that it easy to access and maintain, but concise enough to take up as little disk space as possible.

The term database structure refers to the arrangement of fields, tables, and relationships in a database. The first step in structuring a relational database is to determine what data must be collected and stored. To do so, a database designer might begin by consulting users and studying the current filing

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system to compile a list of available data as well as any additional data necessary to produce on-screen output or printed reports.

After the designer determines what data to store, the next step is to organize that data into fields. It is usually easy to break data into fields just by using common sense and considering how people might want to access the data. Any data that people would search for, sort on, or use in a calculation should be in its own field. The treatment of first and last name illustrates the concept of breaking data into fields. A database designer could define a field called Name to hold an entire customer's name.

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With the entire name in one field, however, the database would not be able to access individual parts of the name, making it difficult to alphabetize customers by last name or to produce a report in which names appear in one field. That's why the last names are stored in a different field than first names.

Although two people might have, for example, the same name or two paychecks might contain the same amount, a computer must have some way to differentiate between records. A primary key is a field that contains data unique to a record.

The data that can be entered into a field depends on the field's data type. From a technical perspective, data type specifies the way data is represented on the disk and in RAM. From a user perspective, the data type determines the way data can be manipulated. When designing a database, each field is assigned a data type. Data can be broadly classified as numeric or character. Character data contains letters, numerals and symbols not used for calculations. Numeric data contains numbers that can be manipulated mathematically by adding, averaging, multiplying and so forth. There are several numeric data types, including real, integer, and date. The real data type is used for fields that contain numbers with decimal places- prices, percentages, and so on. The integer data type is used for fields that contain whole numbers-quantities, repetitions, rankings, and so on. The date data type is used to store dates in a format that allows them to be manipulated, such as you want to calculate the numbers of days between two dates.

The text data type is typically assigned to fixed-length fields that hold character data- people's names, albums titles, and so on. Text fields sometimes hold data that looks like numbers, but doesn't need to be mathematically manipulated. Telephone numbers and ZIP codes are examples of data that looks numeric, but should be stored in text fields. A memo data type usually provides a variable-length field into which users can enter comments. The logical data type (sometimes called a Boolean or yes/no data type) is used for true/false or yes/no data using minimal storage space. Some file and database management systems also include additional data types, such as BLOBs and hyperlinks. A BLOB (binary large object) is a collection of binary data stored in a single field of a database. BLOBs can be just about any kind of data you would store as a file, such as an MP3 music track. The hyperlink data type stores URLs used to link directly from a database to a Web page.

The information produced by reports and processing routines is only as accurate as the information in the database. Unfortunately, data entry errors can compromise the accuracy and validity of a database. When designing a database, it is important to think ahead and envision potential data entry errors. Preventing every typographical error is not possible. However, it is possible to catch some of these errors by using field validation rules, list boxes, or lookups. A process called normalization helps to create a database structure that can save storage space and increase processing efficiency. The goal of normalization is to minimize data redundancy – the amount of data that is repeated or duplicated in a database.

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Records in a database can be organized in different way depending how people want to use them. No single way of organizing the data accommodates everyone need's, but tables can be sorted or indexed in multiple ways. A table's sort order is the order in which records are stored on disk. Sorted tables typically produce faster queries and updates. In a sorted table, new records are inserted to maintain the order. Most DBMSs use a sort key to determine the order in which records are stored. A table's sort key is one or more fields used to specify where new records are inserted in a table. A database index can be used to organize data in alphabetic or numeric order. A database index contains a list of keys, and each key provides a pointer to the record that contains the rest of the fields related to that key.

Designing the database user interface can be a challenging task. If a company's database includes multiple tables used by many different people, a professional user interface designer usually creates and maintains the user interface. Large databases might even require a group of user interface designers, meanwhile the interfaces for smaller databases, such as those used by small business or individuals, is most likely created by a single one.

A well-defined user interface for a database should be clear, intuitive, and efficient. A designer might consider the following principles:

Arrange fields in a logical order beginning at the top-left of the screen. The first field should be those used most often or those that come first in the data entry sequence.

57. Provide visual clues to the entry areas. An edit box, line, or shaded area can delineate data entry areas.

58. Entry areas should appear in a consistent position relative to their labels. By convention, labels are placed left of the entry areas or above them.

59. Provide a quick way to move through the fields in order. By convention, the tab key performs this function.

60. If all fields do not fit on a single screen, use scrolling or create a second screen.

61. Provide buttons or other easy-to-use controls for moving from one record to another.

62. Supply on-screen instructions to help ensure that data is entered correctly. Web database can benefit from links to help pages.

After the design for the database structure is completed, it is time to load the database with an initial set of data. Data can be loaded into a database manually by using generic data entry tools supplied with the DBMS or by using a customized data entry module created by the database designer. Entering data manually can take a long time, however, and mistakes such as misspelling are common. If the data exists electronically in another type of database or in flat files, it is usually possible to transfer the data using a custom-written conversion routine or import and export routines. A conversion routine converts the data from its current format into a format that can be automatically incorporate into the new database. It takes some time and requires knowledge about database formats to write conversion routines, but for

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large databases, it's much quicker to convert data than to re-enter it manually. Converting data also results in fewer errors.

Some DBMSs provide built-in import and export routines that automatically convert data from one file format to another. An import routine brings data into a database. For example, if data was previously stored as a spread-sheet file, an import routine in Microsoft Access can be used to transfer data from the spreadsheet to an Access database. In contrast, an export routine copies data out of a software package, such as spreadsheet software, and into the database. Typically, you would use either an import routine or an export routine to move data from one location to another, but not both.

Task 2. Match the meaning of the following English words with the Ukrainian equivalents.

- | | |
|--------------------------|-------------------------------|
| 1. conversion routine | a) избыточность данных |
| 2. data redundancy | b) порядок сортировки |
| 3. BLOB | c) индекс базы данных |
| 4. variable-length field | d) конверсионная подпрограмма |
| 5. primary key | e) первичный ключ |
| 6. sort order | f) целочисленный тип данных |
| 7. validation rule | g) большой двоичный объект |
| 8. fixed-length field | h) поле неподвижной длины |
| 9. integer data type | i) правило ратификации |
| 10. database index | j) поле переменной длины |

Task 3. Choose the ending for each sentence from the two versions given.

1. The key to an effective database is
 - a) its initial design.
 - b) to determine what data must be collected and stored.
2. The term database structure refers to
 - a) the arrangement of fields, tables, and relationships in a database.

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- b) the concept of breaking data into fields.
- 3. From a technical perspective, data type specifies
 - a) the way data can be manipulated.
 - b) the way data is represented on the disk and in RAM.
- 4. Character data contains
 - a) letters, numerals and symbols not used for calculations.
 - b) numbers that can be manipulated mathematically.
- 5. The goal of normalization
 - a) to produce timely, meaningful, and accurate information for decision making.
 - b) is to minimize data redundancy-the amount of data that is repeated or duplicated in a database.
- 6. After the design for the database structure is completed, it is time
 - a) to determine the order in which records are stored.
 - b) to load the database with an initial set of data.

Task 4. Decide if the sentences are true or false.

1. Information is entered on a database via records. 2. Records are grouped together into files. 3. A card index system is much faster to consult and update than a computer database. 4. A great advantage for managers of different departments is that they have direct access to a common database. 5. Database program can be protected by related information. 6. If you want to share your personal commission, you can protect the commission field.

Task 5. Complete the sentences with the words in the box. Translate.

<i>passwords</i>	<i>field</i>	<i>layout</i>	<i>merging</i>	<i>record</i>
<i>sorted</i>	<i>updated</i>	<i>security devices</i>	<i>database</i>	

1. In order to personalize a standard letter you can use 'mail ...' (a technique which consists of combining a database with a document made with a word processor). 2. Records can be automatically ... into any order. 3. You can decide how many fields you want to have on a 4. Files can easily be ... by adding new information or deleting the old one. 5. Most aspects of the program can be protected by user-defined 6. Thanks to ..., you can share part of your files on a network and control who sees the information. 7. A ... program can be used to store, organize and retrieve information of any kind. 8. The ... of the records can be designed by the user. 9. Each piece of information is given in a separate

Task 6. Discuss the following questions:

- What is a database?
- How is information entered on a database?
- What does each field hold?
- What does 'updating' a file mean?
- What are the advantages of a database program over a manual filing system?
- How can access to a common database be protected?
- What is the goal of a well-designed database?
- What does the term database structure refer to?
- Speak on the first step in structuring a relational database? What is the next step?
- Why are last names stored in a different field than first names?
- What does make each record unique?
- How does a database designer know what data types to use?
- Can a database designer prevent people from entering inaccurate data?
- What is normalization?
- What are the principles that a designer might consider to improve this database?
- How is data loaded into database tables?

Task 7. Which word does not belong to the group?

- a) initial, original, primary, subsequent;
- b) allow, permit, let, advice (v)
- c) current, visual, intuitive, efficiently;
- d) carry out, execute, fulfill, specify;
- e) reduce, decrease, minimize, grow up;
- f) tool, device, equipment, gadget.

Task 8. Fill in the blanks choosing from the variants given.

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1. In a well-designed database, data can be ... manipulated to produce timely, meaningful, and accurate information for decision making.
a) flexibly b) smoothly c) slowly d) hardly
2. The term database structure refers to the ... of fields, tables, and relationships in a database.
a) agreement b) allocation c) arrangement d) appointment
3. A primary key is a ... that contains data unique to record.
a) space b) field c) table d) file
4. When designing a database, you should ... and envision potential data entry errors.
a) think ahead b) think about c) think over d) think out
5. Entering data ... can take a long time, however, and mistakes such as misspelling are common.
a) electronically b) automatically c) in written form d) manually
6. A conversion routine ... the data from its current format into a format that can be automatically incorporate into the new database.
a) provides b) transfers c) converts d) supplies

Task 9. Transform the given sentences using the word in brackets without any change in meaning. You may omit, change or add words as required.

10. The goal of database design is to store information so that it easy to access and maintain (*aim*).
11. The treatment of first and last name illustrates the concept of breaking data into fields (*shows*).
12. BLOBs can be just about any kind of data you would typically store as a file, such as an MP3 music track (*usually*).
13. The information produced by reports and processing routines is only as accurate as the information in the database (*exact*).
14. No single way of organizing the data accommodates everyone need's, but tables can be sorted or indexed in multiple ways (*satisfies*).
15. Typically, you would use either an import routine or an export routine to move data from one location to another, but not both. (*place*).

Task 10. Fill in the gaps in the text.

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The first step in designing relational data base is to define its fields by specifying a ___ and data type. Integer, date and ___ data types are used for fields that might be mathematically manipulated. The ___ data type is used for fixed-length fields containing text that is not intended to be mathematically manipulated. The ___ data type is a variable-length field for entering text. The ___ data type is used to store true/false or yes/no data. The ___ data type is used to store binary data, such as MP3 files or graphics. When designing fields, a database designer can also include field formats, field ___ rules, and lookup routines to reduce data entry errors.

Task 11. Read the text and do the tasks below.

TEXT 21B. SQL

Adding records, finding information and making updates are all important aspects of database use. Most people who access a database on a “casual” basis interact with very simple user interfaces. These user interfaces shield users from the intricacies of sophisticated query languages. Nevertheless, a little background in query languages can help you understand the power and capabilities of databases.

Query languages like SQL (Structured Query Language) typically work behind the scenes as an intermediary between the database client software provided to users and the database itself. Database client software provides an easy-to-use interface for entering search specifications, new records, data updates, and so on. The client software collects your input, and then converts it into an SQL query, which can operate directly on the database to carry out your instructions.

An SQL query is a sequence of words, much like a sentence. Most implementations of SQL accept either uppercase or lowercase keywords.

The SQL query language provides a collection of special command words called SQL keywords, such as SELECT, FROM, INSERT, and WHERE, which issue instructions to the database. Most SQL queries can be divided into three simple elements that specify an action, the name of database table, and a set of parameters. Let’s look at each of these elements.

An SQL query typically begins with an action keyword, or command, which specifies the operation you want to carry out. For examples, the command word DELETE removes a record from a table, the command word CREATE creates a database or table, the command word INSERT is used to add a record, the command word JOIN uses the data from two tables, SELECT searches for records and UPDATE changes data in the field.

SQL keywords such as USE, FROM, or INTO can be used to construct a clause specifying the table you want to access. The clause consists of a keywords followed by the name of the table. For

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example, the clause FROM Tracks indicates that you want to use the Tracks table from the Vintage Music Shop's database.

The term parameter refers to detailed specifications for a command. Keyword such as WHERE usually begin an SQL clause containing the parameters for a command.

One of the most common database operations is to query for a particular record or group of records by using the SELECT command. The phrase, for example, SELECT AlbumTitle, Album Cover specifies that the database should show you only the album title and cover, and until you confirm that is the album you are interested in, it will not show you additional information such as the price or list of tracks.

You can change records in a database only if you have authorization to do so. At Vintage Music Shop's site, for example, customers do not have authorization to change album prices or alter the name of the songs on an album. The process of purchasing an album, however, does cause an update in the whole database. Your purchase just reduces the number of albums in the shop's inventory. To accomplish this update, one of the software modules in the shop's inventory system issues an SQL UPDATE command to reduce the number in the InStock field record. In addition to changing the data in a single record, SQL can perform a global update that changes the data in more than one record at a time. It means that is possible to update a group of records. Suppose you're Vintage Music Shop's marketing manager, and you want to put all The Rolling Stones albums on sale by reducing the DiscountPrice to \$9.95. You could do it the hard way by searching for an ArtistName field that contains "Rolling Stones", adjusting the DiscountPrice field for that record, and then looking for the next Rolling Stones album. However, it would be easier to change all records with a single command. The following SQL statement accomplish this global update:

```
UPDATE Albums
SET DiscountPrice=9.95
WHERE ArtistName="Rolling Stones"
```

Let's see how this command performs a global update. The UPDATE command means you want to change the data in some or all of records. Albums is the name of the record type containing the data you want to change. SET DiscountPrice=9.95 tells the DBMS to change the data in the DiscountPrice field to \$9.95. WHERE ArtistName="Rolling Stones" tells the DBMS to change only those records where the artist name is Rolling Stones. Although the global update function is powerful, it works only for records that have similar characteristics.

Recall that the process of normalization creates tables that can be related by fields that exist in both tables. In SQL terminology, the creating a relationship between tables is referred to as joining tables. To take advantage of the relationship between two tables, you first have to join the tables. Why? Remember that in relational database, the tables are essentially independent unless you join them

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together. The SQL JOIN command allows you to temporarily join and simultaneously access the data in more than one table.

SQL is a very extensive and powerful language that can be used not only to manipulate data, but also to create databases, tables and reports. Because SQL is one of the most popular database tools, many computer professionals consider SQL fluency as essential career skill.

Task 12. Match the meaning of the following English words with their Russian definitions.

- | | |
|-----------------------------|--|
| 1. SQL query | a) запис |
| 2. Database client software | b) повне оновлення |
| 3. Relation database | c) мова запитів |
| 4. Record | d) регуляційна база даних |
| 5. Global update | e) ключове слово |
| 6. Parameter | f) програмне забезпечення клієнта бази даних |
| 7. Keyword | g) SQL-запит |
| 8. Query language | h) слово-команда |
| 9. Command word | i) об'єднання таблиць |
| 10. Joining tables | j) параметр |

Task 13. Match the beginning of the sentences in the first column with the endings in the second.

1. Adding records, finding information, and making updates	a) as an intermediary between database client software provided to users and the database itself.
2. Query languages like SQL typically work behind the scenes	b) are all important aspects of database use.
3. Database client software provides	c) a sequence of words, much like a sentence.
4. An SQL query is	d) only if you have authorization to do so.
5. The process of purchasing an album	e) an easy-to-use interface for entering search specifications, new records, data updates and so on.
6. The SQL JOIN command allows you	f) does cause an update in the whole database.
	Your purchase just reduce the numbers of albums in the shop's inventory.

Task 14. Put the letters in the words in brackets into the correct order.

7. A little ... in query languages can help you understand the power and capabilities of databases (*roducknabg*).
8. An SQL query typically begins with an action ..., or command, which specifies the operation you want to carry out (*weykdor*).
9. The clause consists of a keywords followed by the name of the ... (*ablet*).
10. Your ... just reduces the numbers of albums in the shop's inventory (*sacherup*).
11. The term ... refers to detailed specifications for a command (*earpmaret*).
12. Although the global update function is powerful, it works only for ... that have similar characteristics (*coerdrs*).

Task 15. Fill in the blanks choosing from the variants given.

1. Most people who access a database on a "casual" basis ... with very simple user interface.
a) manipulate b) work c) operate d) interact
2. A little ... in query languages can help you understand the capabilities of databases.
a) certainty b) background c) career skills d) experience
3. The SQL query language provides a collection of special command ... called SQL keywords, such as SELECT, FROM, INSERT, and WHERE, which issue instructions of the database.
a) words b) passwords c) names d) numbers
4. Most SQL queries can be divided into three simple elements that ... an action, the name of database table, and a set of parameters.
a) execute b) indicate c) construct d) specify
5. Customers do not have ... to change album prices or alter the name of the songs on an album.
a) authorization b) rights c) permission d) possibilities
6. SQL is a very extensive and powerful language that can be used not only to ... data, but also to create databases, tables and reports.
a) enter b) manipulate c) to make updates d) input

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Task 16. Match the beginnings and the endings of the steps given and put them into correct order.

1 SET DiscountPrice=9.95 tells	a) the name of the record type containing the data you want to change.
2. WHERE ArtistName="Rolling Stones" tells	b) to change the data in the DiscountePrice field to \$9.95.
3. Albums is	c) to change only those records where the artist name is Rolling Stones.
4. The UPDATE command means	d) you want to change the data in some or all of records.
5. It means that	e) that changes the date in more than one record at time.
6. SQL can perform a global update	f) is possible to update a group of records.

Task 17. Fill in the gaps in the text.

SQL is a database query language that typically works behind the scenes as an intermediary between the database ____ software provided to users and the database itself. Although the specifications for searchers and other database tasks are collected by easy-to use graphical user interfaces, those specifications are converted into SQL ____ which can communicate directly with the database. An SQL query contains SQL ____ such as SELECT, FROM, INSERT, JOIN and WHERE, plus ____ that specify the details of the command. Records can be removed from a database using the SQL ____ command. Record can be added to a table using the SQL ____ command. To search for data, you can use the SQL ____ command. To change or replace the data in a field requires the SQL ____ command.

Task 18. Speaking. Discuss the following questions.

- What are the most important aspects of database use?
- Why is so important to have a little background in query languages?
- What does the abbreviation SQL stand for?
- How does a query language like SQL work?
- What does a simple SQL query look like?

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- f How does SQL specify the action that someone wants carried out in the data base? Speak on the most commonly used SQL command words.
- g How does SQL specify which table to use?
- h How do SQL queries carry out searches?
- i Is it possible to change the contents of records or to update a group of records? What does the process of purchasing cause?
- j How is the date retrieved from more than one table at a time? What command does allow you to access the data in more than one table?

Task 19. Do the tasks in the following test.

1. A(n) ... file is a structured file containing only one record type
2. All of the following are considered advantages of using static Web publishing to display data on a Web page, EXCEPT
 - a) you data remains secure
 - b) most entry-level DBMSs provide the capability to produce an HTML page
 - c) users can change your data
 - d) it provides a “snapshot” of your data
3. Modern database software supports data ..., which means keeping data separated from the program modules that manipulate the data.
4. The first step to organize relational database is to organize data into field. (*True/ False*)
5. In a relational database, an attribute is equivalent to a record. (*True/False*)
6. A(n) ... is a collection of data fields that pertain to an entity, such as a person, place, or thing.
7. One of the goal of normalization process is to minimize data
8. SQL ... include SELECT, FROM and INSERT.
9. ASP, CGI, and PHP are used to create XML documents that are processed on a server before being sent to your browser. (*True/False*)
10. In SQL, the JOIN command allows you to add fields to a database. (*True/False*)
11. Spreadsheet software typically includes some data management features suitable for working with relational database. (*True/False*)
12. A database index has no bearing on the physical sequence of records stored on disk. (*True/False*)
13. Data ... refers to the use of statistical tools for automated extraction of predictive information from database.
14. An SQL query is a sequence of words, much like a sentence. (*True/False*)

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15. One a table's sort key has been added, it cannot be changed. (*True/False*)
16. In an ERD, relationships and ... are shown by connecting lines.
17. A primary ... contains data unique to a record.
18. The term "parameter" refers to detailed specifications for a command. (*True/False*)
19. Real, integer, text, logical, BLOB and date are examples of data
20. A database consists of one or more records ... that contain data.

LANGUAGE SKILLS DEVELOPMENT

Exercise 1. Choose the right variant.

1. Let's have lunch in half an hour, ... ?
2. It is the first time that she (*drive*) a car. - I never (*drive*) a car (*either, too*).
3. Mr. Grey was (—, *a, the*) last person to arrive (*at, to, for*) the party. He (*wait*) for a taxi for an hour.
4. Soho (*be*) a cosmopolitan area since the first immigrants, who (*be*) French Huguenots, (*arrive*) here in (-, *a, the*) 1680s.
5. Coffee seeds which also (*know*) as beans first (*roast*) and then they (*grind*) to make coffee.
6. Coffee grounds then (*process*) in a variety of different ways. Sometimes they (*filter*) and sometimes they (*soak*) in water to (*make, do*) the drink which is popular (*by, with, within*) so many people.
7. His innocence (*prove*) in (*a, the, -*) court and he (*set*) free.
8. Five hundred thousand pounds (*was, were*) donated to build a new hospital wing.
9. I found a briefcase (*on, in, into*) the train. -You (*ought to, can, may*) take it to the police station as soon as possible.
10. You (*would, shall, must*) pay the bills today. - I know, I promise. I (*not, forget*).
11. (*May, shall, will*) you give me a lift to work tomorrow? -Yes, I (*pick*)you up at eight o'clock.
12. They (*be*) married for ten years already. He is (*deep, deeply*) in love with her.
13. She (*not, feel*) well lately. She has arrived (*late, lately*) for the meeting.

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14. ... historian is ... person who studies ... history, (a, *the*, —)
15. We stayed at ... hotel by ... sea. ... room was very comfortable and ... view was fantastic, (*a*, *the*, -)
16. I don't believe in ... ghosts. I think that ... supernatural is ... product of ... people's imagination, (*a*, *the*, -)
17. Of course, most heating systems come ... and ... automatically nowadays, (*by*, *on*, *off*, *of*)
18. One should do (*one*, *one's*) best at all times.
19. The two bank clerks blamed (*themselves*, *itself*, *oneself*) for the robbery.
20. You are typing so fast. If you (*type*) more slowly, you (*not*, *make*) so many mistakes.
21. Many famous men (*live*) in Soho as it (*have*) a reputation for attracting artists, writers, poets and people in (-, *a*, *the*) media.
22. (*A*, *the*, -) Sheftesbury Avenue (*be*) the heart of London's theatre land, and there (*be*) endless clubs, pubs and cafes
23. It is said if you (*wait*) long enough at (*a*, *the*, -) Piccadilly Circus, you (*meet*) everyone you ever (*know*).
24. Travelling abroad (*get*) (*easy*) and (*easy*) for (*a*, *the*, -) young people nowadays.
25. Great importance (*place*) (*on*, *at*, *for*) exam results in this school.
26. The wedding reception (*hold*) in (*a*, *the*, -) small hotel in a week.
27. The construction of the new shopping centre (*complete*) already in our city.
28. Unless you (*be*) more careful, you (*have*) accidents.
29. The Prime Minister (*be to*, *must*, *can*) give a speech (*at*, *on*, *in*) the conference tomorrow.
30. (*Would*, *could*, *can*) you mind my (*stay*, *staying*) here for some days?
31. They (*could*, *might*, *should*) have forgotten about the meeting, that's why they (*not*, *come*).
32. We admired the stars twinkling (*high*, *highly*) in (*a*, *the*, -)dark sky.
33. Our neighbour (*operate*) by a (*high*, *highly*) respected doctor. He is in (*a*, *the*, -) hospital now.
34. ... clothes I bought yesterday (*be*) very cheap. There was ... sale in one of ... departments stores in ... city centre. (*a/an*, *the*, -)
35. ... Rome wasn't built in ... day. (*a/an*, *the*, -)
36. ... Actions speak (*loud*) than ... words, (*a/an*, *the*, -)
37. You can take what you want (*off*, *of*, *from*, *out*) the fruit in that box.
38. Operations were difficult in the 18th century. In (*those*, *that*, *these*) days there (*be*) no anesthetic.
39. Sam would like to marry a girl younger than (*his*, *him*, *himself*).
40. I can't buy everything you want. If I (*buy*) everything you ask, I (*be*) ruined soon.

EMPHASIZING: CLEFT SENTENCES

<p>Compare these sentences:</p> <p>1. We need an electronic version available anywhere and updated regularly.</p> <p>2. What we need is <i>an electronic version available anywhere and updated regularly</i>.</p> <p>In (2) the object of the sentence is made more important. We can use <i>What ...be</i> in this way to emphasise the subject or object of a sentence.</p>	<p>Now compare these:</p> <p>3. Babbage invented the world's first mechanical computer.</p> <p>4. It was <i>Babbage</i> that invented the world's first mechanical computer.</p> <p>5. It was the <i>world's first mechanical computer</i> that Babbage invented.</p> <p>We can use <i>If is/was... that</i> to emphasise almost any part of a sentence.</p>
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Exercise 2. Rewrite these sentences to emphasize the underlined words.

- These days you never know when your computer system will go down due to viruses, sabotage or natural disaster.
- We suggest that everyone back-up their files regularly.
- Over the past 10 years ECO Data Recovery has saved many individuals and companies by retrieving their lost data!
- The installation of a firewall coupled with anti-virus protection will greatly reduce your chances of becoming a hacker's next victim.
- In early 2000 most people became aware of the dangers of distributed denial of service (DDoS) attacks when a series of them knocked such popular Web sites as Yahoo, CNN, and Amazon off the air.
- Spindle motor failure can result from excessive heat due to a bearing failure.
- Everyone knows that computers are constantly getting faster, more powerful, and less expensive.
- Most sound cards give you the power to plug in speakers and a microphone.
- Movies on DVD can also have more than one sound track.
- Most computer users never change how their file and folder windows look.

Exercise 3. Complete the sentences using the following -ise verb forms:

computerise, randomise, categorise, minimise, unauthorise, personalise, customise, specialize.

- The real value of a good software application is often its ability ... information in a way that facilitates easy extraction and analysis by people.
- People are using biometric software, such as fingerprints and facial recognition, to prevent ... logging onto their computer systems.
- Even though the majority of PC software has the flexibility to generate, store and distribute data formatted to the users requirements, ... applications are still favored by businesses.
- It could be said that computer programmers working on medical research projects are highly
- Manually kept records such as patient medical histories can be ... for quick and easy access.
- You can ... the screen by clicking on the box icon beside the white X in the top right hand corner of this screen.
- Users will want ... their systems for a number of reasons, these include becoming more productive, solving a problem particular to their needs.
- Most people do not really understand that computers cannot actually ... anything; the best they can do is simulate the generation of random information to humans.

WRITING

Projects. *Choose and perform one of the projects given.*

1. A friend wants to create a table to store information about a collection of old books. List the fields you might include in the table to store information about the book. For each field, specify the field name, data type (text, numeric, date, etc) and field length. Indicate primary key(s) and describe in writing how you would sort and/or index the data.
2. Computer databases often store personal information about the citizens of more than one country, yet privacy expectations and laws differ. For this project, explore the differences in privacy laws around the globe. Which countries have the strongest privacy laws and which have the weakest? Which laws would govern the data stored by multinational companies? As a global consumer, which databases would concern you most for potential privacy violations? Consolidate your thoughts into a one- to two-page paper and submit to your instructor.

UNIT 22

INFORMATION SYSTEMS ANALYSIS AND DESIGN

Vocabulary Bank Unit 22

Task 1. Read, write the translation and learn the basic vocabulary terms:

- | | |
|--------------------------------|---------------------------------------|
| • acceptance testing | • peer-to-peer environment |
| • adjusted | • point-of-sail |
| • application specification | • pressure-sensitive digitalizing pad |
| • checkout clerk | • Project Development Plan |
| • conversion software | • request for proposal (RFP) |
| • cutover | • request for quotation (RFQ) |
| • discrete step | • scope |
| • entire | • signature |
| • estimate (n) | • system development life cycle |
| • evaluating hardware solution | (SDLS) |
| • evaluation checklist | • System Requirements Report |
| • expert system shells | • to approve |
| • extranet | • to assemble the team |
| • from scratch | • to be usable by |
| • help desk | • to combat |
| • implementation phase | • to convert |
| • in-depth training | • to deduct |
| • intranet | • to eliminate |
| • maintenance phase | • to excel |
| • misleading | • to finalize documentation |
| • on the contrary | • to fix a problem |
| • ongoing activity | • to imply |
| • outline (n) | • to justify project |
| • overall | • to prohibit |
| • peak data load | • to retire |

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- to satisfy
- to stretch throughout
- to undergo
- trial version
- turnkey system
- waterfall SDLS
- written change request

TEXT 22A. SYSTEMS ANALYSIS

Whether you are a part of a team that is developing a complex corporate information system, or you are developing a small information system for your own use, you will be more likely to succeed if you analyze the purpose of the information system, carefully design the system, test it thoroughly, and document its features. In this text you'll learn about the planning and analysis that's required for an information system.

SYSTEM DEVELOPMENT LIFE CYCLE

An information system progresses through several phases as it is developed, used, and finally retired. These phases are referred to as a system development life cycle – usually referred to as SDLC.

Planning

Phase Analysis

Phase Design

Phase Implementation

Phase Maintenance

Phase

The original waterfall SDLC, shown above, approaches each phase as a discrete step in the development process. One phase is supposed to be completed before the next phase can begin.

The SDLC is an outline of a process that helps develop successful information systems. The process of planning and building an information system according to the SDLC is referred to as systems analysis and design.

Planning Phase

For creating an information system it's important to have a plan. Initial plans for an information system are developed during the planning phase. The planning phase for an information system project includes the following activities:

Assemble the project team

Justify project

Choose development methodology

Develop a project schedule

Produce a Project Development Plan.

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The main goal of these activities is to create a Project Development Plan. Before the project proceeds beyond the planning phase, the Project Development Plan must typically be reviewed and approved by the management. This planning document includes:

- A short description of a project, including its scope

- A justification for the project, which includes an estimate of the project costs and potential financial benefits

- A list of project team participants

- A schedule for the project, including an outline of its phases

Project planning begins in the planning phase but stretches throughout the entire project.

As the project takes shape, project managers break down the work into tasks and milestones, which can be scheduled and assisted. As tasks are completed, the schedule can be updated and adjusted. Project management software is an effective tool for planning and scheduling. It helps manages track and visualize the complex interactions between tasks. Popular examples include open source software, such as Open WorkBench, and commercial software, such as Microsoft Project.

Analysis phase

The analysis phase begins after the project team selects a development methodology, draws up the Project Development Plan, and receives permission to proceed from management. The goal of the analysis phase is to produce a list of requirements for a new or revised information system.

Typically, a new information system is designed to replace a system or process that is already in place. It is important to study the current system to understand its strengths and weaknesses before planning a new system.

System requirements are the criteria for successfully solving problems identified in an information system. These requirements guide the design and implementation for a new or updated information system. They also serve as an evaluation checklist at the end of the development project, so they are sometimes called success factors. A new or updated information system should meet the requirements the project team defines.

The project team determines requirements by interviewing users and studying successful information system that solve problems similar to those in the current system. Another way to determine requirements is to construct a prototype as an experimental or trial version of an information system. Often the prototype is not a fully functioning system because it is designed to demonstrate only selected features that might be incorporated into a new information system. A systems analyst shows the prototype to users, who evaluate which features of the prototype are important for the new information system.

After the project team studies the current system and then determines what the new system should do, system requirements are incorporated into a document called a System Requirements Report that

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describes the objectives for an information system. If management or the project sponsor approves the report, the project can move on to the design phase.

Task 2. Indicate the paragraph where the following ideas are found in the text.

These plans are developed during the planning phase.

You can determine the system requirements by this way.

A list of requirements for a new system should be produced at this phase.

Several phases are required for information process.

A plan is inseparable part of an information system.

There are plenty of tools for diagramming and specifying the current system.

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Task 3. Match up the words that are opposite in the meaning.

succeed	essential
permission	computerized
updated	fail
manual	destroy
create out	out of date
obsolete	ban

Task 4. Fill in the blanks choosing from the variants given.

1. Project management software is an effective tool for ... and scheduling.
a) planning b) maintenance c) analysis d) development
2. "A project team" is a group of people who are assigned to analyze and ... an information system.
a) maintain b) develop c) implement d) test
3. Users and analysts work together to identify problems and look for solution in a development process called ... application design.
a) co-operative b) united c) joint d) mutual
4. A modified waterfall SDLC allows to ... between SDLC phases
a) overlap b) break c) skip d) stretch
5. A System Requirements Report describes the ... for a new information system.
a) innovations b) ideas c) objectives d) goals
6. It is difficult to complete the design phase until system ... have a chance to work with software tools that are purchased in the implementation phase.
a) analysts b) developers c) builders d) administrators

Task 5. Make three-word combinations using the words in columns and them fill in the gaps in the following sentences.

A: information	B: source	C: source
joint	requirements	software
project	application	plan

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open	system	report
system	management	project
project	development	software

... describes the objectives for an information system.

... is developed during the planning phase.

... must be reviewed and approved by the management.

You can use ... for planning and scheduling.

OpenWork Bench and Microsoft Project are ..., aren't they?

... is based on the idea that the best information systems are designed when end-users and system analysts work together as equal partners.

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Task 6. Fill in the gaps in the text.

The process of planning and building an information system is referred to as systems _____. The development process is supervised by an organization's Information Systems (IS) department, but the _____ team includes members from other departments as well. System development follows some type of system development _____ cycle (SDLC), which consists of several phases. In the _____ SDLC one phase of the SDLC must be completed before the next phase begins. A project begins with a _____ phase in which a member of the IS department creates a Project Development Plan. The project team then proceeds to the _____ phase, with the goal of producing a list of requirements for a new or revised information system.

Task 7. Speaking. Discuss the following questions.

1. What is a system development life cycle?
2. How does an information project begin?
3. What does the planning phase entail?
4. Do computers offer tools for planning activities?
5. How does the project team determine what the new system should do?
6. How does the project team document system requirements?
7. What does the project team do with system requirements?

TEXT 23B. SYSTEM DESIGN

In the design phase of the SDLC, the project team must figure out how the new system will fulfill the requirements specified in the System Requirements Report. The project team should identify several potential hardware and software solutions by brainstorming and researching case studies at Web sites and in computer magazines. When evaluating hardware solutions for a new information system, the project team considers the overall architecture of the information system based on level of automation, processing methodology, and network technology. Some information systems provide a higher level of automation than others. For instance, a point-of-sale system with a low level of automation might require the checkout clerk to enter credit card numbers from a keypad. At a higher level of automation, a magnetic strip reader automates the process of entering a credit card number. A further level of

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automation is achieved by using a pressure-sensitive digitizing pad and stylus to collect customer signatures.

An information system can be designed for centralized and distributed processing. Distributed processing in a client/server or peer-to-peer environment is very popular because it provides high levels of processing power at a low cost. Virtually every information system requires a network, so the project team must examine network alternatives, such as LANs, extranets, intranets, and the Internet. Many information systems require a complex mixture of networks, such as a LAN in each branch office connected to a company intranet, with customers accessing selected data using the Internet.

The project team might consider software alternatives, such as whether to construct the system “from scratch” in a programming language or select a turnkey system.

An information system “from scratch” is usually costly, but offers the most flexibility for meeting the system requirements. An application development tool is essentially a type of software construction kit containing building blocks that can be assembled into a software product. It includes expert system shells and database management systems.

Commercial software for an information system is usually a series of preprogrammed software modules. It eliminates much of the design work required with programming languages or application development tools. It is available for standard business functions and market businesses and organizations. Although most commercial software has some customization options, in many cases, it cannot be modified to exactly meet every system requirement.

A turnkey system consists of hardware and commercial software designed to offer a complete information system solution. Like commercial software, a turnkey system must be extensively evaluated to determine whether it can satisfy system requirements.

To determine the best solution, the project team devises a list of criteria for comparing each potential solution. It isn't complicated if the project team uses a decision support worksheet. After the project team selects a solution, the next task is to select the hardware and software. Sometimes the team knows exactly what brand, model, or version of hardware and software are required. At other times, the team has a general understanding, but needs vendor help selecting specific products. RFPs and RFQs help the team collect information for these important decisions. Technical criteria for hardware might include processing speed, reliability, upgradability, maintenance costs, and warranty. Technical criteria for software might include reliability, compatibility, and the availability of patches to fix program errors.

Next step depends on the type of solution selected. If a turnkey solution is selected, the next step might be to get approval to move into the implementation phase of the SDLC. In contrast, if the project team selected a solution that requires custom programming, the team's systems analysts will create a set

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of application specifications. Many project failures are often referred to as feature creep. Proposed changes should be managed within a formal process that includes written change requests.

Implementation and maintenance

After the plan for an information system is approved, it's time to start building it. The implementation phase can include: purchase and install hardware and/or software, create applications, test applications, finalize documentation, train users, convert data, convert to new system.

Application testing is performed in three ways: unit testing, integration testing, and system testing. Unit testing and integration testing are usually performed in a test area. A test area might be located in an isolated section of storage on the computer system that runs the organization's regular information system, or might be located on an entirely separate computer system. When a problem is discovered during unit testing or integration testing, the team must track down the source of the problem and correct it. Unit testing and integration testing are then repeated to make sure the problem is corrected, and no new problems were introduced when the original problem was fixed.

The data for a new information system might exist in card files, file folders, or an old information system. This data must be loaded into the new system – a process called “data conversion”.

When converting data from a manual system to a computer system, the data can be typed or scanned electronically into the appropriate storage media. When converting data from an existing computer system to a new system, a programmer typically writes conversion software to read the old data and convert it into a format that is usable by the new system.

System conversion refers to the process of deactivating an old information system and activating a new one. It is also referred to as “cutover” or “go live”. There are several strategies for converting to a new system. They are a direct conversion, a parallel conversion, a phased conversion, a pilot conversion.

A new or upgraded information system undergoes a final test called acceptance testing. It includes the use of real data to demonstrate that the system operates correctly under normal and peak data loads. The term “maintenance phase” is a bit misleading because it seems to imply that the information system is maintained in a static state. On the contrary, during the maintenance phase, an information system is likely to undergo many changes to meet an organization's needs. They can include the following: upgrades to operating system and commercial software, user interface revisions to make the system easier to use, application software revisions to fix bugs and add features, hardware replacements to enhance performance, security upgrades.

To combat an escalating number of viruses, worms, Denial of Service attacks, and intrusions, security has become a top priority for the maintenance phase of an information system's life cycle. Maintaining security is an ongoing activity. A system operator and a systems programmer are responsible for system maintenance. Even after in-depth training, employees sometimes forget procedures or have

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difficulty when they encounter a new set of circumstances. Many organizations establish a help desk to handle end-user problems. For example, suppose you encounter a problem with an update procedure and call the help desk. The help desk technician begins to troubleshoot the problem and soon realizes that it is caused by a programming error not caught during system testing. This bug is recorded in a “bug report” that is routed to the programming group, which can determine its severity and take steps to fix it.

Task 8. Match the terms with their definitions.

centralized processing - describes the information system problem and the requirements for the solution.

distributed processing - describes the way the information system software should interact with users, store data, process data, and format reports.

request for proposal (RFP) - in which processing tasks are distributed to servers and workstations.

request for quotation (RFQ) - is a request for a formal price quotation on a list of hardware and software.

application specifications - in which data is processed on a centrally located computer.

Task 9. Choose the ending for each sentence from the two versions given.

1. Distributed processing in a client\server or peer-to-peer environment

a) is very popular because it provides high levels of processing power at a low price.

b) is very popular because it provides the highest levels of processing power at a high price.

2. A series of programmed software modules

a) eliminates much of the design work required with programming languages or application development tools.

b) requires much of the design work with programming languages or application development tools.

3. An application development tool is

a) essentially a type of software construction kit containing building blocks that can be assembled into a software product.

b) a software kit that can't be assembled into a software product.

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4. RFPs and RFQs help the team

- a) collect information for the important decisions.
- b) determine information for the important decisions.

5. Technical criteria for hardware might include

- a) processing speed, reliability, upgradability, maintenance cost, and warranty.
- b) reliability, compatibility, and the availability of patches to fix program errors.

6. Many project failures are often referred to as features creep

- a) because of changes in needs.
- b) because old features tend to creep into the development process.

Task 10. Which word does not belong to the group?

- a) research, require, study, examine;
- b) collect, gather, determine, take;
- c) reliability, compatibility, digitizing, availability;
- d) creep, steal, get into, include;
- e) card, set, kit, collection;
- f) sheave, block, database, pulley.

Task 11. Fill in the missing words choosing from the variants given.

1. The project team should identify ... potential hardware and software solutions.

- a) all
- b) one from all
- c) some

2. Distributed processing provides ... of processing power at a low cost.

- a) high levels
- b) low levels
- c) intermediate levels

3. Many information systems require a complex mixture of networks, such as a LAN in each branch office ... a company intranet.

- a) separated from
- b) linked to
- c) built into

4. An application development tool is essentially a type of software construction kit containing building blocks that can be ... a software product.

- a) included into
- b) managed by
- c) put together into

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5. A turnkey system consists of hardware and commercial software designed to ... a complete information system solution.

- a) suggest b) control c) design

6. A turnkey system must be extensively evaluated to determine whether it can ... system requirements.

- a) find out b) create c) satisfy

7. The team's systems analysts will create ... of application specifications.

- a) data b) a series c) a criteria

Task 12. Transform the given sentences using the words in brackets without any change in meanings.

1. Distributed processing in a client/server or peer-to-peer environment is very popular because it provides high levels of processing power at a low cost (*means*).

2. It eliminates much of the design work required with programming languages or application development tools (*eliminated*).

3. Most commercial software cannot be modified to exactly meet every system requirement (*modification*).

4. Like commercial software, a turnkey system must be extensively evaluated to determine whether it can satisfy system requirement (*as...as*).

5. At a higher level of automation, a magnetic strip reader automates the process of entering a credit card number (*automatically*).

6. A further level of automation is achieved by using a pressure-sensitive digitizing pad and stylus to collect customer signatures (*collecting*).

7. The project team should identify several potential hardware and software solutions by brainstorming and researching case studies at Web sites and in computer magazines (*when*).

Task 13. Fill in the gaps in the text.

In the ____ phase of the SDLC, the project team identifies solutions, evaluates those solutions, and then selects the best one. It is possible that a ____ system might offer a complete hardware and software

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solution. The project team can use a ___ support worksheet to evaluate solutions based on general, technical, and functional criteria.

After the project team selects a solution, it can then select the specific hardware and software products to build the new information system. The project team might send out a request for ___, asking vendors to recommend a solution and specify hardware and software requirements.

As an alternative, when team members know exactly what hardware and software they need for the solution, they can send out a request for ___, which simply asks for vendor prices. After selecting hardware and software, the team can develop ___ specifications that described the way the new information system should interact with the user, store data, process data, and format reports.

Task 14. Speaking. Discuss the following question.

What happens in the design phase?

How does the project team come up with solution?

What hardware alternatives are available?

What software alternatives are available?

How does the team choose the best solution?

How does the project team find the right hardware and software for the new information system?

What's an RFP and RFQ?

How does the project team evaluate an RFP or RFQ?

What happens after the project team selects a solution?

What is the importance of application specifications?

Task 15. Match the terms with their definitions.

system testing - is the process of modifying a commercial

application to reflect an organization's needs;

integration testing - ensures that module operates reliably and correctly;

software customization - is performed to ensure that the modules operate together correctly;

acceptance testing - is a place where software testing can occur without disrupting the organization's regular information system, or it might be located on an entirely separate computer system;

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- unit testing - ensures that all hardware and software components work together correctly;
- test area - is designed to verify that the new Information system works as required;
- user documentation - is staffed by technical support specialists familiar with the information system software;
- procedure handbook - describes a system's features, hardware architecture, and programming;
- help desk - describes how to interact with the system to accomplish specific tasks;
- system documentation - is a type of user documentation that contains step-by-step instructions for performing specific tasks;
- phased conversion - means that the old system is completely deactivated and the new system is immediately activated;
- direct conversion - avoids some of the risk of direct conversion because the old system remains in service while some or all of the new system is activated;
- pilot conversion - works well with larger information systems that are modularized because the new system is activated one module at a time;
- parallel conversion - works well in organizations with several branches that have independent information processing systems because the new information system is activated at one branch at a time.

Task 16. Match the beginnings of the sentences in the first column with the endings in the second.

1. Unit testing and integration testing are	a) responsible for system maintenance. ... a programmer typically writes.
2. When a problem is discovered during unit testing or integration testing	b) conversion software to read the old data and convert it into a format that is usable by the new system.
3. System conversion refers	c) ... usually performed in a test area.
4. When converting data from an existing computer system to a new system	d) ... the team must track down the source of the problem and correct it.
5. A system operator and a systems programmer are	e) ... to troubleshoot the problem and soon realizes that it is caused by a programming

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6. The help desk technician begins	error not caught during system testing. f) ... to the process of deactivating an old information system and activating a new one.
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Task 17. Put the letters in the following words into the correct order.

sienncovor

ruvis

sinrution

shoyubtleroot

cascumcriter agerost

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Task 18. Fill in the blanks choosing from the variants given.

1. Application testing is performed in three ways: integration testing, unit testing and
 a) data testing b) program testing c) system testing
2. When a problem is discovered during unit testing or integration testing, the team must ... the source of the problem and correct it.
 a) investigate b) produce c) include
3. Unit testing and integration testing are repeated to make sure the problem is
 a) activated b) converted c) solved
4. System conversion refers to the process of deactivating an old ... system and activating a new one.
 a) information b) operating c) support
5. An information system is likely to undergo many ... to meet a company's needs.
 a) changes b) formats c) systems
6. Many organizations establish a help desk ... end-user problems.
 a) to divide b) to manage c) to enlarge
7. The help desk technician begins to troubleshoot the problem and soon ... that it is caused by a programming error not caught during system testing.
 a) forgets b) repeats c) understands

Task 19. Match the beginnings and the endings of the instructions/steps given and put them into correct order.

1. Create debugger as a system software that helps programmers	a) to determine their needs, problems, and expectations.
2. After that write the specifications and design the computer system and the methods for the information system	b) to solve the problem.
3. Write the program in a specific programming language, that specifically refers	c) turn it over to the users with accompanying training, as necessary.
4. Depending on the organization and its size, the systems analyst's tasks are	d) to writing source code.
5. Next step is to interview the people who will	e) necessary or available to solve the problem.

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be using the system 6. With the help of testing and acceptance, make sure the system works properly and 7. Then determine which people and what kind of software, hardware, and monetary resources are 8. Keep system working properly and, if business procedures or conditions are changed,	f) to analyze the problem to be solved, the data to be input, the expected output, and other system considerations. g) identify errors. h) improve them.
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Task 20. Speaking. Discuss the following questions.

Does a new information system typically require new hardware?

What the next step in the implementation phase?

What is application testing?

What documentation does the project team create during the implementation phase?

How do employees learn how to use the new information system?

How does a business switch from the old information system to the new system?

What happens during the maintenance phase?

How important is system security during this phase?

Who is responsible for system maintenance?

Why do maintenance activities include user support?

Task 21. Do the tasks in the following test.

1. In the analysis phase, the project team determines how the new information system will meet the requirements. (*True/False*)

2. A ... tool is a software application that is designed for documenting system requirements, diagramming current information systems, scheduling development tasks and developing computer programs.

3. The process of planning and building a new information system is referred to as systems ... and design.

4. The goal of the...phase is to produce a list of requirements for a new or revised information system.

5. A Project Development Plan typically must be approved by the management before a project proceeds beyond the planning phase. (*True/False*)

6. In an information system context, a ... is an exchange between two parties that is recorded and stored in a computer system.

7. Generally most transaction processing systems provide managers with detail reports that contain all the information needed to understand and analyze data. (*True/False*)

8. A transaction ...- system provides a way to process, store, display, modify, or cancel transactions.

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9. During the ... phase, the project team supervises the tasks necessary to construct the new information system.

10. If you have a question about the information system you are using, the first step to finding the answer is to call the help desk. (*True/False*)

11. In the ... phase, the project team identifies potential solutions, evaluates these solutions, and then selects the best solution.

12. If a project- team selects turnkey solution the next step would be to have the team's system analysts create a set of application specifications. (*True/False*)

13. ... processing using client/server or peer-to-peer architecture provides high level processing power at a low cost.

14. Which of the following documents ask a vendor both to recommend hard ware and software for an information system solution and to provide the vendors qualifications to implement the solution.

- a) request for quotation
- b) request for qualifications
- c) request for solution
- d) none of the above

15. Which type of transaction processing systems collects and holds a group of transactions for processing until the end of a day or a pay period.

- a) online processing
- b) batch processing
- c) group processing
- d) rollback processing

16. Unit testing is normally performed in a test area. (*True/False*)

17. Which phase of an SDLC is usually the most expensive?

18. The analysis phase concludes when the System Requirement Report is written. (*True/False*)

19. An expert system uses fuzzy logic to deal with imprecise data by asking for a level of confidence with an DLTP system, if one step fails during the transaction, the record will ... to their original state.

20. All of the following activities take place during the implementation phase EXCEPT.

- a) purchasing and installing software
- b) creating applications
- c) purchasing and installing software
- d) testing applications

LANGUAGE SKILLS DEVELOPMENT

Verb + object + infinitive

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Verb + object + to-infinitive

<p>New developments in computing are often designed to make something easier. These verbs are often used to describe such developments:</p> <p>allow let enable permit help</p> <p>Study these examples:</p> <p>1. A GUI <i>lets you point</i> to icons and click a mouse button to execute a task.</p> <p>2 A GUI <i>allows you</i> to use a computer without knowing any operating system commands.</p>	<p>3. The X Window System <i>enables Unix- based computers to have</i> a graphical look and feel.</p> <p>4. Voice recognition software <i>helps disabled users (to) access</i> computers.</p> <p><i>Allow, enable and permit</i> are used with this structure:</p> <p>verb + object + to-infinitive</p> <p>Let is used with this structure:</p> <p>verb + object + infinitive</p> <p><i>Help</i> can be used with either structure.</p>
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Exercise 1. Translate the following sentences into Russian. Find the structure Verb + object + infinitive or Verb + object + to-infinitive.

1. Using Recycle Bin feature the user orders the computer to restore the files to their original location.
2. The Windows user interface permits the user to open more than one window at a time.
3. A graphical user interface allows the user to use a mouse to interact with the computer.
4. Double-clicking the mouse causes the program, file or folder represented by the icon to open in a rectangular box on the screen called a window.
5. The company declared the new processor to have been developed in time.
6. A special area called the system tray where icons are displayed lets you see what resident programs are continuously running in the background.

Exercise 2. Put the verb given in the brackets in the right form: to + infinitive or infinitive without to.

1. A user interface allows a user (*interact*) with a computer.
2. My Computer feature lets you (*see*) the resources on your computer.
3. Shift key enables you (*type*) in upper case.
4. The scientists predict molecular computers (*become*) wide spread in the nearest future.
5. The court made Microsoft company (*separate*) Windows and Internet Explorer.
6. We noticed him (*press*) the RESET button.
7. I hear the computer (*play*) the music.

Exercise 3. Change the following complex sentences according to the example by using complex object. Translate them into Ukrainian.

Example: Franklin was the first who developed a new theory of electricity. Franklin was the first to develop a new theory of electricity.

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1. Clicking on a command is the action which allows you to open a list of choices known as a menu.
2. StickyKeys is the feature that helps disabled people to operate two keys simultaneously.
3. I watched how they were repairing the computer.
4. MouseKeys is the utility that enables you to use the numeric keypad to move the mouse pointer.
5. A touchscreen is the device that allows the user to select icons and commands by touching the display screen with their finger instead of using a mouse.

If X, then Y

In this section, we will revise structures commonly used in programming. You have met these structures in earlier units but in different contexts.

<p>Study this decision table. It shows the rules that apply when certain conditions occur and what actions to take. Using it, we can make rules like this:</p> <p>1. <i>If a guest stays 3 nights in January and if one night is Sunday, then charge 2 nights at full price and 1 night at half-price.</i></p> <p>2. <i>If a guest stays 3 nights and one night is not Sunday and it is not January, then charge 3 nights at full price.</i></p>	CONDITI ONS	DECIS ION RULE S	
			1
	guest stays 3 nights		Y
	1 night is Sunday		Y
	month is January		Y
	Actions		
	charge 3 nights at full price		N
	charge 2 nights at full price		Y
	charge 1 night at half-price		Y

Exercise 4. Link these statements with while or until, whichever is most appropriate.

Look through member records. There are no more records.

Display guests addresses. There are no more addresses remaining.

List all items. There are no more items left.

Print some more client names. There are still names available.

Calculate all figures. There are no more figures.

Search for information containing the term. There is still information containing the term.

Total all items. There are still some items remaining.

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Read these records. There are records left.

Rewrite these records. There are no more records.

Study this list of items. There are some items left.

Exercise 5. Put the words into the right order.

my you ask help for If just it need.

selects appear the the menu offering several Triangle choices icon a If user might.

If to to next you step the get you object will have want to select an.

If application want to the of a execute triangle might a set different create instructions you.

eligible the package employees qualify benefit If are for package a specific welders automatically
for.

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available a simple benefit welder is If later where a different relocated package is revision is.

the right the mouse on "Right triangle" clip a might clicks voice explain If the properties use of right triangles.

right If the of on is triangles clicked mouse explains "Equilateral triangle" the voice properties equilateral.

you If with should might deal applications you use OOP multimedia probably.

a condition then process this If certain is true instruction.

Exercise 6. Create statements about the decision table as shown.

Example: If a guest books a hotel room in summer and stays for a week, then charge at 100\$.

Condi ons	Decision Rules			
	Guest stays a week	Guest stays a decade	Guest stays a fortnight	Guest stays a month
Summer	100\$	140\$	200\$	400\$
Spring	80\$	120\$	160\$	320\$
Autumn	70\$	110\$	140\$	280\$
Winter	50\$	90\$	100\$	200\$

Exercise 7. Choose the right variant.

1. (*The, a, -*) tea, which (*grow*) in India and China, (*be*) the national drink (*of, off, at*) Britain.
2. Mrs Green (*wait*) for the doctor for half an hour. When he (*examine*) the boy, he said, "(*The, a, -*) child must stay in (*a, the, -*) bed (*as, just, until*) he (*get*) (*good*)".
3. Hijackers (*still, hold*) twenty passengers in a plane at (*a, the, -*) Manchester Airport.
4. The hostages (*sit*) in the plane without (*a, the, -*) food or water for two days already.
5. As you (*can, must, may*) see from the letter, I (*change*) my address and live in the suburbs now.
6. Living in the country is (*expensive*) than in (*a, the, -*) big city nowadays.
7. I decided to change from (*la, the, -*) central London to the suburbs because it (*become*) so expensive to live there.

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8. Members of (*the, a, -*) British Parliament (*pay*) salaries since 1911.
9. (*The, a, —*) hereditary principle still operates in Great Britain and the Crown (*pass*) on to the sovereign's (*older, elder, eldest*) son.
10. If (*many, a few, few, any*) news comes in while I (*be*) away, let me know.
11. Henri Nestle, who was Swiss, (*develop*) the process of making (*a, the, —*) milk chocolate.
12. This week the police (*arrest*) a couple in (*the, —, a*) Switzerland, where they (*try*) to sell chocolate secrets.
13. I think that people (*be, only*) (*interested, interesting*) in news which (*happen*) near them or which (*affect*) them (*economical/economically*).
14. The word chocolate, which (*come*) from (*the, a, -*) Aztec language, is (*a, the, —*) only Aztec word in (*the, a, -*) English.
15. (*The, -, an*) Incas (*discover*) popcorn. They (*live*) in (*-, the, a*) South America in (*a, the, -*) fifteenth century.
16. People who live in (*the, a, -*) Netherlands (*call*) (*the, a, -*) Dutch.
17. The policeman asked me if the car (*park, parking, parked*) near the office (*belong*) to me.
18. I'm staying there until he (*return*) from his holidays. Then I (*go*) (*on, in, at*) holiday to Scotland.
19. Remember that even if you (*have*) the right qualification, you (*may, could, should*) have to fill in lots of application forms before you (*ask*) to attend an interview.
20. You are working slowly. - If I (*have*) a calculator, I (*can*) work this out a lot quicker.

WRITING

Projects. Perform the project given

Form a group of two to five students as the project team for a systems development project. Elect one person as the team leader, who will assign tasks to each group member. Your team's mission is to complete the planning phase for a systems development project and produce a Project Development Plan. The first task is to identify and briefly describe an information system at school, work, or local business that needs improvement. The second task is to make a list of problems and opportunities that exist in that system. The third task is to make a list of tasks your team would perform, design, construct, and implement a new information system. Finally, incorporate all your findings into a document that would

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serve as the Project Development Plan. Submit this plan to your instructor, who might provide additional directions for your group work and report format.

Create 10 rules for an expert system that pertains to your career field. To complete the assignment, think of a set of simple decisions that someone on the job might be required to perform. For example, a loan officer might be required to make a quick evaluation of a borrower, an auto mechanic might be required to figure out what various tapping noises mean, or a fitness instructor might be required to recommend the best type of fitness class for clients. Make a list of 10 rules that would help make the decision. The rules should be in the format IF...THEN...Submit your rules to your instructor.

UNIT 23

VIRTUAL REALITY

Vocabulary Bank Unit 23

Task 1. Read, write the translation and learn the basic vocabulary terms:

- | | |
|---|-----------------------------------|
| • along with | • liquid-crystal |
| • ambitious | • mind trip |
| • appropriate | • mind's content |
| • astray | • oblivion |
| • black holes | • paraplegic |
| • bookmark | • perceptive depth |
| • boundary | • popup |
| • challenged by birth | • prepared skull |
| • chronological order | • public television documentaries |
| • computer combat | • regardless |
| • computer-enhanced | • roller coaster ride |
| • cyberspace | • sensory environment |
| • down-to-earth application | • simulation |
| • entertainment | • substitute (n) |
| • exact | • surgical procedures |
| • fibre-optic | • swoop |
| • gear | • telepresence |
| • goggle (n) | • timeline |
| • handicapped | • to affect |
| • helmet | • to backtrack |
| • horizontal strip | • to be featured |
| • IRC (Information Reception
Service) | • to guide |
| • ISDN (Integrated Services Data
Network) terminal adaptor | • to mix up |
| • leading edge | • to seek out |
| | • to slip |
| | • to straddle |

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- to strap on
- to surf
- traversing
- TV sitcom
- wearer
- wide-angle lenses

TEXT 21 A. VIRTUAL REALITY

One of the most exciting new areas of computer research is virtual reality. Having been featured in TV sitcoms as well as public television documentaries, virtual reality is merely an ambitious new style of computer interface. Virtual reality creates the illusion of being in an artificial world — one created by computers.

Virtual reality visitors strap on a set of “eyephones”, 3-D goggles that are really individual computer screens for the eyes. Slipping on the rest of the gear allows you not only to see and hear, but also to sense your voyage. The world of virtual reality has been called cyberspace, a computer-enhanced fantasy world in which you move around and manipulate objects to your mind’s content.

When you move your head, magnetic sensors instruct the computer to refocus your eye phones to your new viewpoint. Sounds surround you, and a fiber-optic glove allows you to “manipulate” what you see. You may seek out strange new worlds, fight monsters in computer combat, or strap yourself into the seat of a Star Wars-type jet and scream through cyberspace, blasting all comers to oblivion (computer oblivion, at least). Or, with your stomach appropriately settled, you might even try out the most incredible roller coaster ride you will ever take in your life.

For the disabled, virtual reality promises a new form of freedom. Consider the wheelchair bound paraplegic child who is suddenly able to use virtual reality gear to take part in games like baseball or basketball. Research funded by the government takes a military point of view, investigating the possibility of sending robots into the real conflict while human beings don cyberspace gear to guide them from back in the lab.

Task 2. Are the statements true or false?

Virtual reality is a computer-built fantasy world.

Virtual reality is also called cyberspace.

There are no limits to virtual reality.

Virtual reality is created by being in a special room.

Virtual reality is available only on expensive computer systems.

Virtual reality is the leading edge of the computer technology.

Eyephones are the 3DFX fiber-optic glasses.

Eyephones are not the only virtual reality gear.

Virtual reality might be misused.

Virtual reality can return the disabled to the full-fledged life.

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Virtual reality was designed by the military to guide robots.

One can not only see or hear virtual reality, but also feel and smell it.

Virtual reality is only a type of computer interface.

Task 3. Read the words as they are used in the following sentences and try to come up with your own definition:

Using computers to create graphics and sounds, virtual reality makes the viewer believe he or she is in another world.

Three-dimensional images are created using technology that fools the viewers' mind into perceptive depth.

Plug a terminal directly into the brain via a prepared skull and you can enter cyberspace.

I've got a set of eyephones, 3D goggles, a fiber optic glove and the rest of the gear.

There are many word substitutes for invalids, e.g. the handicapped, challenged by birth or by accidents, disabled people.

The bowman took a deep breath, aimed at the target and shot, but the arrow went astray.

Virtual reality — _____

Three-dimensional (3D) — _____

Cyberspace — _____

Gear — _____

Disabled — _____

To go astray — _____

Task 4. Put the proper words into sentences:

fibre-optic, swoop, go astray, clutching, gear, to one's mind content, enhance, cyberspace, eye phones.

Virtual reality is sometimes called...

3-D ... are really individual computer screens for the eyes.

Virtual reality can ... possibilities of the disabled.

The manual ... box allows you to slow down without braking, while the automatic one doesn't.

Cyberspace allows everybody to change it...

The letters wrongly addressed...

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... unknown things may cause an accident.

By the end of the 20th century metal wires had been replaced by ... ones.

In one of the s the ... the NATO has lost their most expensive fighter.

be, have, see, do, leave, write, tell.

It was more than a hundred years ago that Lewis Carroll ... about Alice's trip through the looking glass.

Now that fiction ... became a reality ... or you might say, a virtual reality ... because that's the name of a new computer technology that many believe will revolutionize the way we live.

Trainees fighting in virtual battles often cannot ... a man from a machine.

Virtual reality lets you travel to places you've never do things you've never — without ... the room.

Someday, you will ... that virtual reality makes other forms of entertainment, such as TV and movies, obsolete.

Task 5. Translate the following sentences into Ukrainian.

Virtual reality straddles the foggy boundary between fantasy and fact.

Imagine a place and you'll be able to step into it. Conjure up a dream and you'll be able to fly through it.

He's launched one of the first computers to mass-produce virtual reality systems.

Virtual reality techniques have been used to make a 3D model of the planet Mars. There are, of course, more down-to-earth applications. Virtual reality models of urban landscapes are allowing urban planners to redesign Main Street without leaving the room.

We're now reaching a point where the simulations are so realistic that the line between playing a game or a simulation and actually blowing people up is becoming blurred.

Virtual reality has been featured in TV sitcoms as well as public television documentaries.

Slipping on the rest of the gear allows you to sense your voyage.

For the disabled, virtual reality promises a new form of freedom.

Eyephones are not the only virtual reality gear.

You can not only see or hear in virtual reality, but also feel and smell

Virtual reality lets you travel to places you have never visited.

In the future, people will be able to have easy access to virtual reality systems.

If virtual reality technology were more affordable at present time, many more people would be able to try it.

Virtual reality makes other forms of entertainment such as TV and movies obsolete.

Task 6. Match the sentence beginnings (1-6) with the correct endings (a-f):

- | | |
|---|--|
| 1. Use of computer modelling and simulation enables a person | a) pick up the user's movements and adjust his or her view accordingly, usually in real time. |
| 2. A computer-generated environment simulates reality by means of | b) interactive devices that send and receive information and are worn as goggles, headsets, gloves, or body suits. |
| 3. The illusion of being in the created environment (telepresence) is accomplished by motion sensors that | c) including entertainment, medicine and biotechnology, engineering, design, and marketing. |
| 4. The basis of the technology emerged in the 1960s in simulators that taught | d) how to fly planes, drive tanks, shoot artillery, and generally perform in combat. |
| 5. It came in the 1980s and is now used in | e) games, exhibits, and aerospace simulators. |
| 6. It has potential for use in many fields | f) to interact with an artificial three-dimensional visual or other sensory environment. |

Task 7. Fill in the gaps using the list of words in the box. Translate.

<i>liquid-crystal sensors screen illusion devise link</i> <i>simulate cockpit simulation image stereoscopic</i> <i>electronic glove control create helmet launched video games</i>
--

A virtual reality system consists of a ... with a color display in front of each eye, and wide-angle lenses to cover the entire field of view and give a ... effect. The helmet contains ..., rather like electronic compasses, to record where it is pointing. A computer calculates what the wearer should see in that direction and displays it on the In more advanced systems, the operator wears an ... that detects

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exactly what the fingers are doing and transmits the information to the computer. If the user tries to pick up something, the computer will make the object follow the hand to give the ... of carrying it.

Pads in the latest type of gloves press into the insides of the fingers and palm when an object is encountered, to ... the illusion of feeling it. Complete 'exoskeletons' covering the user and allowing the computer ... almost anything possible in real life are still in the laboratory.

The biggest initial market is likely to be for a new generation of *W Industries* have recently ... a virtual reality system for video arcades. The system, called *Virtuality*, consists of a ... in which a player sits, wearing the helmet, at a set of controls that can mimic a bobsleigh, a spaceship, or whatever the imagination of the games programmer can The helmet has a pair of ... displays with wide-angle lenses giving a stereoscopic ... , and a set of magnetic sensors to tell the computer what the helmet is looking at as it moves. The first game is a fighter Another is based on a sequence (епізод) in the film, *Return of the Jedi*, in which flying motor-cycles race through a forest. The computer can ... and ... several helmets at once for a group game.

Task 8. Translate the following sentences into English.

1. Віртуальна реальність - це інтерактивне, мультисенсорне середовище, змодельоване комп'ютером.
2. Для людської раси віртуальна реальність стане поворотною віхою.
3. Віртуальна реальність принесе людству більше шкоди, ніж користі.
4. Найкраще застосування віртуальна реальність знайде у військовій та медичній техніці.
5. Віртуальна реальність дає шанс повноцінного розвитку інвалідам.
6. Людина створила комп'ютер, комп'ютер створив віртуальну реальність.
7. З подальшим вдосконаленням техніки віртуальна реальність стане одним з найбільш популярних способів подорожі.
8. Мистецтво з часом стане непотрібним, оскільки його замінить віртуальна реальність.

Task 9. Fill in the chart with the some more appropriate info:

Who uses Virtual Reality?

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<i>User</i>	<i>Use</i>	<i>Implementation</i>	<i>Benefit</i>
NA SA	recreatin g different critical situations (e.g. situation 'fire or not to fire')	flight simulations; battle simulation	risk-free, inexpensive, military training
Arc hitects			
Med icine		turning a CAT scan into 3D model of the patient's body; telepresence workstations for surgical procedures	microcameras attached to endoscopic devices relayed images that could be shared among a group of surgeons looking at one or more monitors, often in diverse locations
Edu cation		the Room of Educational Wall	
Libr aries		telepresence	
Mus eums		creating a 3-D image of an exhibit	

Task 10. Render the following into English. Find additional information on modern trends in virtual reality and make short presentations in front of the class.

Сучасна технологія віртуальної реальності - це відгалуження комп'ютерної графіки, яка вплинула на все - від складання карт до телереклами.

Сучасна технологія віртуальної реальності починається з спроби поєднати візуальне сприйняття зі сприйняттям руху і звуку. Потрібні, як мінімум, головний дисплей і рукавичковий пристрій (або інші засоби управління віртуальними об'єктами). Повне занурення вимагає від користувача надіти сенсорний костюм, що передає дані про рухи до комп'ютера.

Головний дисплей - це два дуже маленьких відеомонітора, кожен з яких знаходиться перед відповідним оком, і спеціальні ширококутні лінзи. Ці пристрої розміщені в шоломі таким чином,

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що очі можуть приймати зображення, яке мозок ідентифікує як тривимірне. Деякі дисплеї забезпечені навушниками, що створюють звукове середовище. В минулому головні дисплеї були важкими і незграбними, більш пізнім прагнуть надати форму легкого шолома, що створює унікальний ефект присутності у віртуальному просторі.

Інші методи, як, наприклад, спеціальні електронні окуляри, дозволяють користувачам працювати в реальному середовищі, одночасно звертаючись до зображень в середовищі віртуальному.

Спеціальний рукавичковий пристрій дає користувачеві можливість буквально проникати в кіберпростір і змінювати його. Рукавичка може оцінювати становище і вигин кожного пальця. Це забезпечується використанням особливих оптико-волоконних ниток, які фіксують кількість світла, що проходить через кожну нитку, або, навпаки, вимірюють змін електричної напруги в ланцюзі.

Ще один важливий елемент системи занурення - це пристрій стеження за положенням. Це пристрій може працювати за допомогою або електромагнітного поля, або ультразвукових або інфрачервоних променів. Один пристрій стеження контролює рух головного дисплея, а інший - кожну рукавичку чи іншу частину тіла, яку користувач вважатиме за потрібне помістити в кіберпростір.

Ілюзія простору також може бути створена узгодженими звуковими сигналами. Тривимірний звук - не те ж саме, що звичне нам стерео. Він набагато сильніше впливає на людські вуха, голову і плечі. Індивідуальний характер такої звукової рецепції дозволяє користувачеві не тільки чути звук, але і визначати віртуальне становище його джерела.

У створенні ілюзії також може брати участь дотик. Зусилля в цьому напрямку включають імітацію грубих тканин або температурні коливання на кінчиках пальців рукавичок. Інша система поєднує тактильні відчуття з мінімальним почуттям опору, використовуючи в рукавичках крихітні повітряні бульбашки. Ще одна методика включає використання фізичного опору.

Task 11. Discussion. Tell the class your own ideas on the topics.

What developments in computer technology have changed the way people live and work?

How have some home entertainments such as television and video games affected people's life?

How will further advances in computer technology continue to change the world?

It has been said that technology is a double-edged sword. What does that statement mean?

What is virtual reality?

Who can use virtual reality?

How can virtual reality benefit society?

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How can virtual reality harm society?

Which uses of virtual reality appeal to you most?

Is it possible to create a perfect virtual reality?

Computers take you on mind trips. Where would you like to go on a mind trip?

The perspectives of the virtual reality development.

Task 12. Discussion. Answer the following questions.

How do you launch your web browser?

How do you change the size of the text on a web page?

How can you tell if your browser is working?

If you have a problem with your browser, what would you do?

Task 13. Read the following text to give an explanation to the following terms:

Web browser;

Menu bar;

Toolbar;

Browser's window

TEXT 23B. WEB BROWSER

The Web browser is your access point to the information and resources that make up the World Wide Web (WWW). When you click on a hyperlink or type a Uniform Resource Locator (URL) in the location field or address box the browser requests information from a Web server. When the information is delivered it is the browser's job to display the information or start another program to deal with it.

The commands you use to work with the Web browser are available through the menu bar, the toolbars, the keyboard, and the menus that pop up when you use the right or secondary mouse button. These ways of accessing commands or features stay the same, regardless of what you're viewing or working with on the World Wide Web. The menu bar is a collection of pulldown menus that you can use for almost every operation or command. The toolbar has a number of items, often displayed as text and

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icons, which give quick access to some of the commands in the menu bar. Several commands are also available as keyboard shortcuts, meaning that you can type them directly on the keyboard instead of using a mouse.

Once a page is in the browser's window, you can move around the page using the keyboard, the scroll bars, or the mouse. You can search for words in the page. To go to another page, move the mouse to a hyperlink (the pointer turns into a hand) and click on it. You can also type a URL in the address bar or address box and then press **e** to access it.

The browser keeps track of the sites you've visited during recent sessions. It does this so that you can backtrack and return to sites during a session. The history list holds links to all the sites that you have visited recently. You can collect a set of hyperlinks in the bookmark or favorites list. These will be available from one session to the next. The browser contains commands to let you maintain and manage your bookmark or favorites list.

Common sense tells us not to give out personal information, home phone numbers, or home addresses to people we don't know. We're likely not to do that in our daily lives when we don't know the person who is asking for the information, and it is just as important to apply the same rules when we're using the Internet or the World Wide Web. The Internet and the World Wide Web give us lots of opportunities for learning, recreation, and communication. We don't need to be rude or unfriendly, but we do need to be careful, safe, and secure.

Security and privacy on the World Wide Web are important topics for a variety of reasons, including an individual's desire for privacy, the increased use of the Internet for commercial transactions, and the need to maintain the integrity of information. If you access the Internet by logging into a computer system, you need to take care to choose a password that will be difficult to guess. Furthermore, you should notice and report any unusual circumstances or modifications.

Task 14. Find the words in the text above which have the following meanings and write them in the spaces provided:

A collection of direct links to predefined web pages which is stored in your web browser.

A horizontal strip that contains lists of available menus for a certain program. _____

A text field near the top of a Web browser window that displays the URL of the current webpage.

A menu of commands or options that appears when you select an item with a mouse.

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A word, phrase, or image that you can click on to jump to a new document or a new section within the current document. _____

A computer program that is responsible for accepting HTTP requests from clients and serving them HTTP responses along with optional data contents. _____

A set of icons or buttons that are part of a software program's interface or an open window. _____

A software application for retrieving, presenting, and traversing information resources on the World Wide Web. _____

Task 15. Decide whether the following statements are true or false:

1. A browser is an application program that provides a way to look at _____ True
and _____ e/False
interact with all the information on the World Wide Web.
2. The web browser also interprets HTML tags as links to other _____ True
websites, or to _____ e/False
other web resources.
3. Home pages usually display graphics, sound, and multimedia files, _____ True
as well as _____ e/False
links to other pages, files that can be downloaded.
4. Web browser displays information on your computer by interpreting _____ True
the URL. _____ e/False
5. The browser main functionality is to present the web resource you _____ True
choose, by _____ e/False
requesting it from the browser window and displaying it on the
server.
6. Web is a collection of audios and other resources, linked by _____ True
hyperlinks and _____ e/False
URLs, transmitted by search engines and web servers.

Task 16. Choose the correct word from the list below to complete the following sentences:

*Local area network World Wide Web browser surf
Internet Explorer (URLs) short wide area
network.*

A _____

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is a piece of software that allows users to _____ the internet. The browser that is used in most schools is called _____. The _____ is the part of the Internet that is the main information store. Websites can never be mixed up because they all have different web addresses _____. The Internet is an example of a _____. The opposite of a wide area network is a _____: this is where computers are linked together over _____ distances.

Task 17. Match the terms on the right with the corresponding definitions on the left.

Term			Definition
.	world wide web	)	An application that plays music and videos
.	website	)	A way of talking (typing) to other people in real time
.	home page	)	A set of interconnected webpages, including a homepage, located on the same server and maintained as a collection of information by a person, group, or organization.
.	instant messaging	)	A way of sending electronic messages to people
.	email	)	You can type this in to get to an exact page on the Web
.	(URL)	)	The computer language that many web pages are written in
.	HTML	)	The application software that lets you look at web pages.
.	browser	)	The full name of the web.
0.	Flash)	An annoying window that appears suddenly when you are viewing a page. Sometimes browsers let you block these.
	Windows		A way of viewing cartoons, and playing games on

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1.	Media Player)	the web.
2.	hyperlink)	The main page on a Web site. It will point to all other pages on the site and will be the page people come to first.
3.	popup	)	Click on me to get to another page on the Web.

Task 18. Complete the following dialogue.

*Google web browser web page change open
use Internet Explorer TV channel icon web
browser*

- What's _____ a _____?
- Well, that's _____.
- What's _____ that?
- The _____ you click on says, "Internet Explorer," and that's how you get on the Internet.
- I _____ do _____ that?
- Yes.
- So when I go to _____, that's a web browser?
- Yes.
- So Google is a _____?
- No. You _____ a web browser to go to Google.
- Wait...I _____ don't _____ get _____ it.
- Google is a _____ and you use a web browser to _____ it. But you can also open other web _____ pages.
- Okay, think of it like this. A web browser is like a _____ and Google is like a _____. So yes, you can go to Google, but you can also _____ the channel to something else.
- Got it.

Task 19. Use the most appropriate answer to complete the sentences below.

1. Web Browser is _____ used to access the Internet services and resources available through the World Wide Web.

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- a) Software b) Program c) Operating system d) None of these
2. It is a client program that initiates requests to a_____
- a) Network server b) World Wide Web c) Web server d) None of these
3. Web browsers often provide a _____ that lets users click icons, buttons, and menu options to view and navigate Web pages.
- a) Graphical interface b) Interface c) Way d) None of these
4. Browser information and statistics is important for _____
- a) Network operators b) Website designers c) Website developers d) None of these
5. To connect to the Internet when you are not connected to a network, you can use a regular telephone line and _____.
- a) A modem b) Email software c) An ISDN terminal adaptor d) IRC software
6. The toolbar in which you can type a web address is the _____ Bar.
- a) Status b) Format c) Address d) Navigation e) Links
7. An image with a web address attached to it is a _____.
- a) Map b) Link c) Document d) Results

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8. A benefit of using frames on a web page is that _____.

a) The navigation links can be in view all the time b) the pages will take less space on the server

c) The pages will load faster d) they are faster to write

9. To search the largest collection of Web pages for information on black holes you would probably first use a _____.

a) Encyclopedia b) Search engine c) Web directory d) Portal

10. To open a link in a new browser window you would _____.

a) Right-click on the link and choose Open in a new window

b) Click the link while holding down the CTRL key

c) Double-click the link while holding down the CTRL key

d) Choose from the menu Window

Task 20. Translate the following sentences into English.

1. Браузер – програма, що дозволяє показ і взаємодію з текстом, малюнками і іншою інформацією присутньою на сторінках веб-сайтів у всесвітній мережі Інтернет або локальній мережі.

2. Сьогодні браузер — комплексне застосування для обробки і виведення складових веб-сторінки, і для надання інтерфейсу між веб-сайтом і його відвідувачем.

3. Існують спеціальні веб-оглядачі, вбудовані у відносно прості моделі мобільних телефонів, які орієнтовані на спеціально спрощений текстовий формат WML, проте найсучасніші моделі спроможні відображати також HTML та XHTML.

4. Браузер дає можливість переглядати каталоги інформаційних ресурсів веб-сайтів і здійснювати переходи на вибрані веб-сторінки. На сьогоднішній день існує цілий ряд _процесу для навігації в Інтернет.

5. У світі існує мільйони Веб серверів і на кожному з таких серверів може розташовуватися не один, а кілька сайтів. Це стало можливим завдяки технології віртуальних доменів.

6. Зазвичай посилання вказує на іншу веб-сторінку, але воно також може вказувати на зображення, адресу електронної пошти або програму. У документі гіперпосилання може бути подане текстом або зображенням.

7. Гіперпосилання можна використовувати для виконання таких завдань:

перехід до файлу або веб-сторінки в мережі, або Інтернеті;

перехід до файлу або веб-сторінки, які заплановано створити у майбутньому;

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надсилання повідомлень електронної пошти;

запуск _процесу передачі файлу (наприклад завантаження за протоколом FTP).

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LANGUAGE SKILLS DEVELOPMENT

RECENT DEVELOPMENTS IN IT

Ability: *can, could, be able to*

<p>Study these ways to describe ability:</p> <p>1. Swarming robots <i>can</i> work together to perform searches.</p> <p>2. Washing machines <i>will be able to</i> report any breakdowns for repair.</p> <p>3. Imagine <i>being able to</i> send music files to your MP3 player without a wire connection.</p> <p>4. Professor Warwick had a chip fitted into his arm which <i>could</i> activate sensors in doors and computers as he approached.</p> <p>5. Marconi <i>was able to</i> send a radio signal from Britain to Newfoundland.</p> <p>We use <i>can</i> and <i>be able to</i> to describe ability in the present but <i>can</i> is more common. We use <i>could</i> for general abilities in the past but <i>was/were able to</i> describe an ability on a specific occasion. This table summarises their uses:</p>	<p><i>Ability</i></p> <table><tr><td>pres ent</td><td><i>an</i></td><td><i>be able to</i></td></tr><tr><td>futu re</td><td></td><td><i>will be able to</i></td></tr><tr><td>pres ent perfect</td><td></td><td><i>has/have been able to</i></td></tr><tr><td>-ing form</td><td></td><td><i>being able to</i></td></tr><tr><td>past (specific action)</td><td></td><td><i>was/were able to</i></td></tr><tr><td>past (general and with verb s of sensation)</td><td><i>ould</i></td><td>X</td></tr></table> <p>For past negatives and questions both verbs are possible. For example:</p> <p>Early computers <i>could not/were not able to</i> operate at high speeds.</p> <p><i>Could they/were they able to</i> store much data?</p>	pres ent	<i>an</i>	<i>be able to</i>	futu re		<i>will be able to</i>	pres ent perfect		<i>has/have been able to</i>	-ing form		<i>being able to</i>	past (specific action)		<i>was/were able to</i>	past (general and with verb s of sensation)	<i>ould</i>	X
pres ent	<i>an</i>	<i>be able to</i>																	
futu re		<i>will be able to</i>																	
pres ent perfect		<i>has/have been able to</i>																	
-ing form		<i>being able to</i>																	
past (specific action)		<i>was/were able to</i>																	
past (general and with verb s of sensation)	<i>ould</i>	X																	

Exercise 1. Match items in columns A, B and C in order to make true sentences.

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A	B	C
The programme Easy Recovery	will be able to can being able to could has been able to	keep an eye on the children with the help of the Screenfridge in the kitchen.
AIMP MMC PRO		appear in 2050.
Wireless computer		communicate with the Internet.
Imagine		restore 5 files without registration.
A washing machine of Ariston		convert your music to MP3.
The first electronic digital computer built in 1945		be the only producer of OS.
Microsoft		to represent the new version of Windows (Vista) in 2007.
		to use a water cooling to cool a 5 GHz processor.
		use so much electricity that lights in the nearby town.

Exercise 2. Read the following texts and describe the ability of different things given in these texts.

1. Thomas of Colmar (A.K.A. Charles Xavier Thomas) created the first successful mechanical calculator. The range of abilities of this calculator consisted of adding, subtraction, multiplication and division. A lot of improved desktop calculators by many inventors followed, so that by about 1890, the range of improvements included:

Accumulation of partial results

Storage and automatic reentry of past results (A memory function)

Printing of the results

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Each of these required manual installation. These improvements were mainly made for commercial users, and not for the needs of science.

2. The 19th Conference on Human Factors in Computing, sponsored by the Association for Computing Machinery, drew nearly 3000 people. All came ready to talk about ways to help people make better use of what Microsoft Chairman Bill Gates called “the most important machine in history”.

Already, \$ 25000-and-up software from Troba Inc. of San Francisco lets Web sites determine, by analyzing patterns of movement among pages, whether online visitors are angry or confused. The refinement of Troba customers’ sites, mostly online relatives, is a reality now.

Microsoft will devote \$ 4billion to research and development of input from handwriting, the human voice, and sensors that use body language and facial expression to infer the user’s intent.

Exercise 3. Put the words in the right order to make correct sentences.

your/use/to/DVD/you/Nero Express/or/can/disks/CD/clear.

3D/operate/the/could/with/first/graphics/videocards?

or/person/to/as/or/imagine/take/her/we/able/him/take/with/every/being/watches/Tablet PC/mobile phones.

to/we/DVD/will/use/read/soon/be/which/disks/able/players?

was/with/able/to/a/years/not/PDA/multimedia/few/operate/ago.

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Exercise 4. Each sentence has a mistake. Find it and correct it.

In 1942-43 in England the electronic device “Coloss” was created by Alan Turing. This device could to decode radiogram messages of fascist Germany. (specific action)

Computers will be able to be human assistants in intellectual activity.

Imagine have been able to do our homework within one second with the help of a computer.

PC is already been able to give a simple voice command, but a computer can’t fully interact with a person.

In future we being able to find ourselves in any place we like by the use of a computer.

The Englishman Charles Babbage designed the project of Analytical device (1830 - 1846). The device can do arithmetical operations, store information, control the operations, input and output something.

THE FUTURE OF IT

Predictions : Future Perfect and *It* in subject position

<p>We use the Future perfect to predict actions which will be completed before a particular time in the future. It is often used with time expressions such as <i>by 2020, before the end of the century</i>. For example:</p> <p>1. By 2010 scientists <i>will have developed</i> active contact lenses.</p> <p>We can vary the strength of our predictions using the certainty verbs studied in Unit 16 instead of <i>will</i>. For example:</p>	<p>2. By 2030 geneticists <i>may/might/could</i> have created the first biologically optimised humans.</p> <p>We can also make predictions using <i>It</i> in subject position when the true subject of the prediction is a <i>that</i> clause. For example,</p> <p>1. It's likely that computers will be used to develop other faster computers.</p> <p>2. It's possible that we'll work from telework centres in future.</p>
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Exercise 5. Change the sentences given below using Future Perfect.

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Perhaps by 2020, it could be possible to have infrared distribution to each seat in all trains and planes in order to guarantee high bandwidth communication.

We can expect human: machine equivalence by about 2020.

By the year 2020, it's likely that we will use multiprocessor computer's systems.

In 2025 quantum computers will appear in our houses.

By around 2030, we may have the technology to directly link our brain to the ultra-smart computers that will be around then, giving us so much extra brainpower that we deserve a new name, Homo Cyberneticus.

Ordinary biological humans would eventually accept the transition and plain old Homo Sapiens could become voluntarily extinct, perhaps as early as 2200.

Exercise 6. Match the terms in Table A with the statements in Table B.

Table A

Interface problem
Voice and language recognition
Technophobic users
Telecomms applications
Virtual environments
Encryption
Voice processing
Voice synthesis
Visualization technology
Teleworking
Cyberspace
Reverse engineering of the human brain
Intelligent agents
Biotechnology

Table B

Environments that are computer simulated
Exploring the human brain from the inside and finding out how it works
Systems and devices used to create a virtual reality environment

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The industrial application of biological science techniques

Programs used for communications over long distances

The problem of communication between us and machines

Changing speech into digital signals

The combination of all data on all the computer networks throughout the world, accessed using the Internet

Computer programs that can be trained to watch, learn and start communicating

Computer programs changing speech into program commands and digital data

Working at home while communicating with your office by computer, telephone and fax

The transformation of data into coded form to make it secure

Users who have a fear or strong dislike of technology and technological devices

The generation of a human-sounding voice using electronic circuits

Exercise 7. Choose the right variant.

1. (A, the, -) lit cigarette thrown (*out of, from, off*) a car (*can, may, is to*) start a fire in a forest.
2. The police stated that the robbers probably (*enter*) the bank shortly after midnight.
3. The police investigation showed the robbers were professionals as they (*manage*) not only to switch off the alarm system, but the security cameras (*to, as well, either*).
4. Chocolate not only tastes (*delicious/deliriously*), it is also rich (*in, at, with*) iron, magnesium and potassium.
5. Melinda told us she (*have*) a birthday party at her house the following day. She said that she (*wait*) for us at 6 p.m.
6. Bill said he couldn't believe what (*happen*) the day before.
7. Mrs Jacobs told me her daughter (*revise*) for her exams all day. By the end of this week she (*pass*) all her exams.
8. The coach threatened that he (*drop*) Bob from the team if he (*miss*) training again.
9. A pop concert was held in our city not long ago to raise money for (a, *the, —*) poor.
10. No one in our class is as (*good*) at languages as my friend. If he (*not, enter*) the Linguistic University it will be one of (*great*) disappointments in his life.
11. (*Which, what*) would you rather be - a lawyer or a customs officer? - I (*not, decide*) yet.
12. I (*am used to, used to*) living in the country. I think it's less expensive and much (*comfortable*) than to live in big cities.

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13. When the satellite (*launch*) next time, scientists (*can, be able to, have to, may*) investigate the rings around (*a, the, -*) Saturn in more detail than ever before.

14. Despite yesterday's snowfalls, we (*could, be able to, must, might*) drive home (*little*) than an hour.

15. Road accidents have become very common nowadays. They usually (*cause*) by people who drive dangerously.

16. Grandmother said that she felt very dizzy because she (*forget*) to take her medication that morning.

17. Soho used to be considered one of (*dirty*) and (*dangerous*) places in London, but it was cleaned up in the early 1980s. Since then it (*become*) a meeting place.

18. Down by the river, the old warehouses (*transform*) into galleries, shops and clubs; the pubs also (*restore*) to their original Victorian beauty.

19. Where is exactly Soho? - Between Oxford Street and (*a, the, -*) Charing Cross Road. Today it is one of the most bohemian (*area, areas*) in London as great changes (*take*) place here of late.

20. - What would you do if you (*see*) a tiger walking across Hyde Park?

- I (*climb*) a tree.

- That's (*not, be*) any use. The tiger (*climb*) after you.

WRITING

Use the internet to find some information about different browsers. Choose 4 the most versatile and extensible browsers and complete the table below with appropriate information:

Browser	Internet Explorer	Browser 1	Browser 2	Browser 3	Browser 4
Creator	Microsoft				
Open Source/ Proprietary?	Proprietary				
Operating	Windows				

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System(s)					
Anti -Phishing	+				
Pop - up blocking	+				
RSS reader	+				
Cost					
Late st Version/ Date					
Voic e Control					
Uniq ue Features					
Stre ngths					
Wea knesses					

Which of the five web browsers you listed above is your favorite, and why?

Create a timeline of release dates for each of the five browsers you selected.

Arrange them in chronological order from oldest original release date, to newest release date.

UNIT 24. JOBS IN COMPUTING. LANGUAGE SKILLS DEVELOPMENT.
UNIT 24

JOBS IN COMPUTING

Vocabulary Bank Unit 24

Task 1. Read, write the translation and learn the basic vocabulary terms:

- | | |
|---------------------------------|---------------------------------|
| • ability to work | • industrious |
| • agreed estimates | • intelligent software |
| • amending (n) | • job requirements |
| • analyst | • job training |
| • breakdown (n) | • PC assembly |
| • business intelligence | • plot |
| • capabilities | • premise (n) |
| • challenging work | • proficient |
| • commercial environment | • promotional material |
| • company's profitability | • realm |
| • computer services engineering | • requirements |
| technician | • senior programmer |
| • conscientious | • solid grasp |
| • consultancy | • standard grades in |
| • cost-friendly | • storage-area network |
| • critical thinking | • tactful |
| • CV (curriculum vitae) | • team leader |
| • day-to-day running | • technical expertise |
| • developer | • timescale |
| • dot-com bust | • to compile a program |
| • driving demand | • to earn the trust of the team |
| • e-discovery support | • to enrol |
| • e-solution | • to follow the expectations |
| • experience | • to get along with |
| • faulty parts | • to handle |
| • highly skilled | • to integrate with |

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- to lay things out
- to migrate
- to necessitate
- to plop down
- to shirk the task
- to venture
- willingness to do smth

TEXT 24 A. JOBS IN COMPUTING

Most ICT-related jobs have developed to meet the need to analyze, design, develop, manage or support computer software, hardware or networks. The primary requirements for being a good programmer are nothing more than a good memory, an attention to detail, a logical mind and the ability to work through a problem in a methodical manner breaking tasks down into smaller, more manageable pieces.

The first key point to realize is that you can't know everything. However you mustn't become an expert in too narrow a field. The second key point is that you must be interested in your subject. The third key point is to differentiate between contract work and consultancy. Good contractors move from job to job every few months. A consultant often works on very small timescales – a few days here, a week there, but often for a core collection of companies that keep coming back again and again.

All the people involved in the different stages of development of a computer project, i.e. analysts, programmers, support specialists, etc. are controlled by a project (or IT) manager.

- **IT managers** manage projects, technology and people. Any large organization will have at least one IT manager responsible for ensuring that everyone who actually needs a PC has one and that it works properly. This means taking responsibility for the maintenance of servers and the installation of new software, and for staffing a help-desk and a support group.

- **Systems Analyst** studies methods of working within an organization to decide how tasks can be done efficiently by computers. He or she takes a detailed analysis of the employer's requirements and work patterns to prepare a report on different options for using information technology.

- **Software Engineer/Designer** produces the programs which control the internal operations of computers, converts the system analyst's specification to a logical series of steps, translates these into the appropriate computer language and often compiles programs from libraries or sub-programs, combining these to make up a complete systems program. Software Engineer designs, tests and improves programs for computer-aided design and manufacture, business applications, computer networks and games.

- **Computer Services Engineering Technician** can be responsible for installation, maintenance or repair of computers and associated equipment. Some technicians carry out routine servicing of large mainframe systems, aiming to avoid breakdowns. Others are called in to identify and repair faults as quickly as possible usually by replacing faulty parts. Work can also involve upgrading machines usually on customer's premises.

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- **Network Support Person** maintains the link between PCs and workstations connected in a network. He or she uses telecommunications, software and electronic skills and knowledge of the networking software to locate and correct faults.

- **Computer Salesperson** advises potential customers about available hardware and sells equipment to suit individual requirements, discusses computing needs with the client to ensure that a suitable system can be supplied, organizes the sale and delivery and, if necessary, installation and testing.

- **Application Programmer** writes the programs which enable a computer to carry out particular tasks. He or she may write new programs or adapt existing programs, perhaps altering computer packages to meet the needs of an individual company. Application Programmer also checks programs for faults and does extensive testing.

- **Systems Support Persons** are analyst programmers who are responsible for maintaining, updating and modifying the software used by a company. Some specialize in software which handles the basic operation of the computers. This involves use of machine codes and specialized low-level computer languages. Most handle applications software. They may sort out problems encountered by users. Solving problems may involve amending an area of code in the software, retrieving files and data lost when a system crashes and a basic knowledge of hardware.

- **Hardware Engineer** researches, designs and develops computers, or parts of computers and the computerized element of appliances, machines and vehicles. He or she is also involved in their manufacture, installation and testing. Hardware Engineer may specialize in different areas: research and development, design, manufacturing. He or she has to be aware of cost, efficiency, safety and environmental factors as well as engineering aspect.

There are so many reasons to plop down at the computer and play for hours. For some teens, computer time is a fun way to relax. But for students with strong math skills and technology know-how, computers can lead to successful careers.

Changing technology is one reason computer professionals will continue to be in demand in the future. Short supply is another major factor. David Overbye, director of curriculum at DeVry University, says the dot-com bust has stopped many students from enrolling in computer programs. What kinds of computer careers are available? Hot jobs include video game creator, network security administrator, webmaster and animator.

Animator. Movies, television and Web pages all use high-tech animation. In the long term, Overbye says, animation is a growing industry.

Students interested in a career in animation should be creative and have an eye for design. “It is a more top-level skill,” Overbye says. “These are going to be the more artistic types, the people who are good at laying things out.”

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Computer animators also need to have strong computer skills and “know the tools they are using,” Overbye says. Animators can be hired by movie studios, television networks or companies looking for Web designers.

“You’re seeing a general trend toward higher (Internet) speeds to the home, so content going on the Web is becoming more dynamic,” he says.

Video games Creator. The field of video games and simulation is growing quickly. Computer professionals design video games, military flight simulators and job training programs. Many colleges have created bachelor’s degrees in game simulation and programming because of increased need. Simulation tools have become cheaper, so that means more businesses are interested in buying the programs. Taxi cab drivers, for example, could be trained with a simulation program to learn how to drive a route, Overbye says.

Video gaming is also a growing industry in need of professionals to create consoles, handheld systems and computer games.

Overbye says students who are thinking about careers in simulation or game programming should have a strong interest in computers, math and physics. Employers will also expect students to take courses in English, humanities and social sciences to learn communication skills.

Network security administrator. One of the oldest crimes in the world is stealing money, Overbye says. And that crime has gone high-tech as banks and businesses trade money and financial information over networks. Any time you use a credit card at a fast food restaurant, for example, the restaurant network has to send the information to its and your bank. Hackers want to get into the network to steal money, and its security’s job to protect the system.

Start a career in network security with a degree in computer information systems. Overbye says students who are considering this degree should have strong math, science and programming skills. They should also be creative types who tend to ask a lot of questions.

Webmaster. Someone has to design all those good-looking Web pages. Web design is a growing field with beginning designers starting at \$35,000 a year, says Sung Kang, an assistant professor of graphic design at Iowa State University in Ames.

Creativity and critical thinking are the most important skills for a Web designer. “All the new technology they can learn, but sometimes creatively thinking is very difficult to teach,” Kang says.

To become a Web designer, earn a degree in computer programming. Or, study graphic design while taking a few programming courses from the computer science department, Kang says.

Task 2. Which computer specialist will do the following?

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a) researches, designs and develops computers, or parts of computers; b) maintains the link between PCs and workstations connected in a network; c) organizes the sale and delivery and, if necessary, installation and testing; d) writes the programs which enable a computer to carry out particular tasks; e) studies methods of working within an organization to decide how tasks can be done efficiently by computers; f) is responsible for maintaining, updating and modifying the software used by a company; g) manages projects, technology and people; h) designs, tests and improves programs for computer-aided design and manufacture, business applications, computer networks and games

Task 3. Complete the table using the information from the text and your own ideas. The following words and expressions could help you:

ambitious; clever; creative; conscientious; industrious; strong-willed; persistent; just; punctual; resolute; smart; tactful; logical mind; qualified; have experience in this kind of job; bright; communicative; be able to earn the trust of the team; to be a man of character; to have a good sense of humor, never shirk the task; to praise; good to get along with

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job title	nature of work	technical skills	personal qualities
IT manager			
Systems Analyst			
Software Engineer/Designer			
Computer Services Engineering Technician			
Network Support Person			
Computer Salesperson			
Application Programmer			
Systems Support Persons			
Hardware Engineer			

Task 4. Classify these jobs under the heading that best describes their function.

Software engineer, help desk technician, database administrator, trainer, network analyst, system analyst, hardware engineer, network administrator.

analyze	design/development	manage	support
a.../b...	c.../d...	e.../f...	g.../h...

Task 5. Draw lines between the columns to make true sentences about jobs.

A technical designer controls all the operations and people in a project.

A project writer writes documentation of a program or device.

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A web specialist plans and keeps websites updated.

A security manager designs applications against viruses.

Task 6. Study the personal profile of Charles Graham. Which is the most suitable job for him?

Charles Graham

-28 years old.

-Education: 3 A-levels.

-In-depth knowledge of Apple Macintosh equipment.

-Course in graphic design and page-layout applications from Highland Art School.

-Proficient in Adobe PageMaker.

-Diploma in word processing. Wide experience in MS Word and WordPerfect.

-Present job: Computer operator for PromoPrint, a company specializing in publishing catalogues and promotional material.

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Task 7. a) Complete the sentences below using *for*, *since* or *ago*.

Use this Help box.

Help box

For: We've used Microsoft Internet Explorer *for* two years.

Since: I've been a programmer *since* 1993.

Ago: I left university seven years *ago*.

I've been looking for a job ... April.

They've used a fax machine ... the past two years.

Kate Jackson studied computer sciences ... three years.

I got married six years...

She's been working for this firm ... 1990.

b) What is the difference in meaning between these two sentences?

I've worked for a year as a senior programmer.

I worked for a year as a senior programmer.

Task 8. Sarah Brown is one of the applicants for the job of Senior Programmer. Read her letter of application and put the verbs in brackets into the correct tense.

19 Sandford Street

London NW 7 4HH

Mr. Scott

Personnel Manager

Digitum

75 Parkhill Street

London SW2 3DE

Dear Mr. Scott,

I am writing to (1) (apply) ... for the position of Senior Programmer which (2) (advertise) ... on 28 February in The Times

I (3) (work) ... as a computer programmer for the last three years. After graduation I (4) (work) ... for a year with NCR and (5) (be) ... now ... with Intelligent Software for two years. I design systems in

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COBOL for use in large retail chains. These have been very successful and we (6) (win) ... several new contracts in the UK and Europe on the strength of my team's success.

Last year I (7) (spend) ... three months in Spain testing our programs and also (8) (make)... several short visits to Italy so I have a basic knowledge of Spanish and Italian. Now I feel ready for more responsibility and more challenging work and would welcome the opportunity to learn about a new industry.

I enclose my curriculum vitae and look forward to hearing from you.

Yours sincerely,

Sarah Brown.

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Task 9

a) Here is a form of Curriculum Vitae.

CURRICULUM VITAE

Personal details

Name _____

Date of birth _____

Address _____

Telephone number _____

Education _____

Work experience _____

Other information _____

Referees _____

b) Complete the CV with all the relevant information about yourself according to the CV of David William Manning

CURRICULUM VITAE

Personal details

Name David William Manning

Date of birth 29 May 1987

Marital Status Single

Address 318 Leadhill Street London EC1 1DR

Telephone number 071 263 6925

Education

1994-2004 St. Godric's School, Buckingham

General Certificate of Education

Aston Technical College, Birmingham

OND in Computing

Work experience

2007 to present Company: GCG Merchant Bank

Post: a Systems Programmer

Other information Clean driving licence

Referees Mr Joseph Morse

System Manager

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GCG Merchant Bank

Threadneedle Street

London EC1 7GH

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Task 10. *Maria Quintana, from Spain, is interested in the job of computer operator as advertised below. Use her notes to write a letter. You can start like this: I'm writing to apply for...*

International Mercury Computers

Requires Computer Operators

We have vacancies for experienced operators to work on their own initiative in a busy company. You will be responsible for the day-to-day running of our data-processing equipment. You must be highly communicative and have good problem-solving skills. We can offer an excellent salary, training and good promotional prospects to the right candidate.

Send your CV and a covering letter to James Taylor, International Mercury Computers, 37 Charles Place, London SW 10 6XX

Notes for the CV

- Cambridge Certificate of proficiency in English.
- Computer Sciences degree from Zaragoza University, Spain.
- Knowledge of both Macintosh and Windows environments.
- Two years' experience working on 'Linea Directa', a local magazine for computer users.
- Present job: Computer Operator for Graphic Color SL. This involves data control and editing, data preparation, and computer operating.
- Reasons for applying: Wants to develop operating skills and move into management.

Task 11. *Is there the job of your dreams? Select your favourite career and, while you are reading the Text 24 A, write down the personal qualities and professional abilities required for the job.*

Task 12. *Study these job requirements. Try to match the requirements to the list of jobs.*

Job requirements	Jobs
1) at least 5 years (2 at senior level) in: Unix, SYBASE or ORACLE, NT or Windows 2000, Terminal Server, TCP/IP, Internet; strong project management (2 years); willingness to travel abroad	a) Visual Basic Developer

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<p>2) able to manage, lead and develop a team; knowledge of C, C++, Delphi; experience of object-oriented design within a commercial environment; ability to deliver software projects against agreed schedules and within agreed estimates</p> <p>3) proven track record in the delivery of e-solutions in banking environment; knowledge of Unix, NT and Oracle; willingness to travel internationally</p> <p>4) minimum 4 years lifecycle development experience; demonstrable skills using VB, SQL, RDBMS; able to develop core s/w;</p> <p>excellent communication skills</p> <p>5) minimum of 18 months commercial experience of Web development; knowledge of HTML, Java, ASP; full portfolio of URLs as examples</p> <p>6) experience of NT, Exchange, SQL Server, Monitoring Software, Verta, TCP/IP; solid grasp of networking; 2 to 5 years experience in a network environment</p>	<p>b) IT Engineer (Network and Database)</p> <p>c) Web Developer</p> <p>d) Network Support</p> <p>e) E-commerce Consultant</p> <p>f) Team Leader</p>
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TEXT 24 B. TODAY'S MOST DESIRED INFORMATION TECHNOLOGY SKILLS

In today's economy, many companies seeking information technology professionals have raised the bar for what they expect out of their IT department. As information technology has ventured far away from the conventional personal computer and single programmer and entered the realm of technology integration, those in the IT field have been forced to follow suit with these expectations.

Employers are now in search of business prospects specializing in both information and communications technologies – professionals who not only possess technical expertise, but can also offer basic business skills including management, graphic design and communications. As the health of the

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economy improves, business are investing in an onslaught of applications, technical projects and infrastructures that necessitate highly skilled and qualified IT programmers and project managers.

Unfortunately, IT professionals are not only up against a competitive market, but are also faced with an increasing number of companies cutting down on IT staff and introducing new technologies that will automate operations and decrease costs, according to Computerworld.com. Therefore, it is best for IT professionals out on the job market to possess skills in the following:

1. **Technical Support:** The ability to migrate a company to the most up-to-date software and maintain a thorough understanding of how it works for any troubleshooting that may arise.

2. **Application Development and Programming:** In an ever changing environment, it is necessary for IT professionals to process applications expertise for the introduction of new products and innovations.

3. **Security and Risk Management:** Regulatory compliance needs and an increasing demand for tools with implemented security features are driving demand for valuable security skills. It is expected IT staff should be experts in encryption, data loss prevention, compliance and auditing, Web content filtering, e-discovery support, and threat and vulnerability evaluation.

4. **Network Administration:** With an increased usage in video and VoIP, companies will require network, voice and radio experts to manage upgrades and oversee compliance with federal mandates. IT professionals should be familiar with server, storage and networking in order to efficiently solve issues.

5. **Project Management:** This comes into play for the oversight of Web and mobile initiatives and rollouts of newer products. Therefore, IT professionals must stay up to date on emerging technologies and applications so the company they work for can benefit, as well. According to a poll by Monster.com, more than half of those planning to make new hires this year will seek out candidates with project management skills.

6. **Business Intelligence:** Technology experts should be able to take knowledge of computer-based technologies and apply them to the identification, extraction and analysis of business data for contribution to a company's profitability.

7. **United Communications:** With several areas of the enterprise integrating with unified communications solutions, it's important for IT staff to understand these technologies as a value to the company and recommend new ways of doing business that provide a competitive advantage to the company. IT professionals should be familiar with today's integrations with e-mail, instant messaging and conferencing capabilities.

8. **Mobile Devices/Applications:** IT professionals should have basic knowledge of the tools used to migrate applications, data and configuration settings to mobile devices and smartphones. With much of Internet searching and daily communications moving to smartphones, and companies requiring

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employees to use a separate phone for business purposes, this opens up a whole new arena for opportunities in the IT market.

9. **Data Center:** Storage experience, as well as data center expertise, is in high demand in today's IT world, according to Computerworld.com. Individuals should have analytical skills for choosing the most cost-friendly and appropriate storage-area network for the company.

10. **Social Media:** This isn't completely necessary, but it may appeal largely to organizations looking to effectively get its message and news out to the world, as well as connect with other partners and companies in the industry.

Task 13. Read and translate the words with the same root:

To integrate – integration, to expect – expectation, to communicate – communication, to manage – management, to face – face, to introduce – introduction, to increase – increasing – to decrease, to migrate – migration, to understand – understanding, to evaluate – evaluation, to use – usage, to identify – identification, to contribute – contribution, to integrate – integration, to employ – employee – employer, to connect – connection.

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Task 14. Say whether the following statements are true or false:

The bar for what companies expect out of IT professionals has raised greatly.

Highly qualified IT professionals are experts both in information and communication technologies.

IT professionals are faced with number of companies increasing IT stuff.

The range of IT professionals' skills has ventured far away from conventional computer and entered the realm of business.

The list of skills that companies require from IT professionals is not long.

Task 15. Discuss the following questions:

Why have the companies seeking IT professionals raised the bar for what they expect out of them?

What business prospects are employers in search now?

What problems do IT professionals face now?

Which skills should an IT professional possess?

Task 16. Insert the prepositions:

These information technology manager jobs require a great deal ... knowledge ... personal computers, networks, servers and troubleshooting.

The manager ... this role is responsible ... the entire computer operations.

The primary objective ... the business infrastructure manager is to promote business success ... providing efficiently ... employee's computers and eliminating wasteful processes ... outdated technology.

These information technology manager jobs are growing sector ... the industry, handling the dual role ... including coworkers ... the IT decision making process and also helping guide ethical, professional and financial guidelines ... executives.

Acting as independent contractors, these managers focus ... information technology project management jobs, ranging ... updating a computer system to governance consulting, computer process analysis, and more.

LANGUAGE SKILLS DEVELOPMENT

Requirements: *need to, have to, must, be + essential, critical*

<p>Note how we describe requirements for particular jobs:</p> <p>You <i>need</i> to be able to empathise with the person at the other end of the phone.</p> <p>IT managers <i>have to</i> take responsibility for budgets.</p> <p>You <i>must</i> be interested in your subject.</p> <p>You <i>must have</i> worked for at least two years in systems analysis.</p> <p>Experience with mainframes <i>is essential/critical</i>.</p> <p>We can describe things which are not requirements like this:</p> <p>6. You <i>don't need to</i> have a degree in computing science.</p>	<p>We can also treat <i>need</i> as a modal verb and use the negative form <i>needn't</i>:</p> <p>7. You <i>needn't</i> have a degree in computing science.</p> <p>Have to is an ordinary verb. Its negative form is made in the usual way:</p> <p>8. You <i>don't have to</i> be an expert in everything.</p> <p><i>Mustn't</i> has a quite different meaning. It means it is important not to do something. It is used for warnings, rules and strong advice. For example:</p> <p>9. You <i>mustn't</i> make unauthorised copies of software.</p>
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Exercise 1. Open the brackets. Mind the tenses.

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Though you (not can) know everything you (must, to be) an expert in your own field.

A consultant often (to have to) work on very small timescales- a few days here, a few days there.

He (to need, to be) better if he wants to apply for this job.

Any large organization (must) have at least one IT manager.

You (not must) set up any password system on this computer.

You (must, to spend) lots of time writing this program- it's very complicated.

You (not to need) have any previous work experience.

(To be) very important to install firewalls and keep out hackers.

A system analyst (to have to) study systems in an organization and decide how to computerize hem.

Production of special programs which control the internal operations of computers (to be) very necessary and essential nowadays.

Exercise 2. Use the appropriate modal verbs

A webmaster ...administer a Web server.

An applications programmer is a person who ...write applications programs.

You ...be extremely qualified if you ...create such programs.

A security specialist ...a useful qualification for your career.

You ... attempt to gain unauthorized access to network systems.

If you ...show someone an impressive piece of software with your name on it, it will count a lot more than a string of academic qualifications.

Though university degrees ...rather essential still they are sometimes useless.

You ... stay in one company for more than two years.

You ... expect much if you don't practice a lot.

You ...be bright, communicative and to be able to earn the trust of your team.

Exercise 3. Put the words into the right order.

qualifications renewed certain must Technical be at intervals.

going you train up are If to should training yourself you undertake some.

If you to company go work you need want this some to and take courses with a training will company for.

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devote Students time to much towards have their studies.

results can the of Experience exams the not to also influence of amount but have work you do the only.

you In of to the get questions within answering allotted order exam the need pass requisite to used to number the time.

possible should much as You find out also as information.

not Students skip exams otherwise fail must might lectures they the afterwards.

hard knowledge Working the very term for acquiring throughout is essential profound.

for It future paying is training a you your serious good if course get about worth career.

Exercise 4. Choose the right variant.

TEST 11

1. I found my lost pen while I ... for my pencil sharpener.

- a) look c) was looking
- b) looked d) am looking

2. When my friend studied abroad, his parents ... him every week.

- a) phone c) had phoned
- b) was phoning d) phoned

3. When I got home I realized that I ... my wallet.

- a) lose c) had lost
- b) lost d) has lost

4. When you ... to the Chinese restaurant next time, what will you eat?

- a) go c) goes
- b) will go d) would go

5. The man ... by the police yesterday, but he denies robbing the bank.

- a) arrest c) is arrested
- b) was arrested d) had been arrested

6. It's raining, but if you take your umbrella, you ... wet.

- a) don't get c) won't get
- b) didn't get d) doesn't get

7. Last year Helen was staying with her brother while her house

- a) repaired c) was repaired

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b) was being repaired d) had been repaired

8. Cars are fast and convenient. On the other hand they ... problems in cities.

a) cause c) has caused

b) caused d) will cause

9. When I ... up yesterday, I was told this good news.

a) wake c) woken

b) woke d) has woken

10. We ... come to your party, but it depends on our finding a babysitter.

a) may c) has to

b) couldn't d) mustn't

11. Our teacher is a reliable person, we ... trust everything to her.

a) shouldn't c) is able

b) can d) must

12. I'll feel ... when my exams are over.

a) happy c) more happily

b) happily d) happiest

13. I felt ... because I had fever.

a) badly c) worse

b) bad d) the worst

14. Have you ever seen a film at ... Embassy cinema?

a) - c) an b) a d) the

15. I don't like to have ... animals in my flat.

a) the c) an

b) — d) some

16. Excuse me, could you move. I can't see

a) something c) nothing

b) anything d) none

17. ... is at home and no one knows where they are.

a) Anybody c) Everybody

b) Somebody d) Nobody

18. I'd like to thank everybody who has helped me ... this experiment.

a) in c) at

b) on d) with

19. He wanted to borrow my bike ... the weekend but I couldn't lend it to him.

a) to c) for

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b)in d)on

20. My cat catches a lot of

a) mouse c) the mice

b) mice d) a mouse

Exercise 5. Choose the right variant.

1. If children learn ...foreign language in ... school they will be able to spend pleasant holidays abroad communicating with the local people, (a, *the*, -)

2. Travelling abroad (*become*) now much (*easy*) and (*cheap*) than ever before.

3. Learning foreign languages ... be confusing for a child, as children ... find it difficult to learn new words and to keep the foreign language separate from their own. (*may*, *could*, *should*, *can*)

4. We must stop the hunting of wild animals and (*a*, *the*, -) destruction of forests before it is too (*late*, *lately*).

5. I hope that one day everyone (*be*) part of the world movement to save the Earth.

6. Sports (*change*) a lot over the years, but they still provide entertainment (*for*, *to*, *at*) many people.

7. I'll never forget the impression New York made on me the first time I (see) it. Of course I knew much about the famous city from the cinema and the book I (*read*).

8. I understand that it is (*easy*) said than done, but you must try to include regular exercises in your daily routines as (a, *the*, -) form of protection against heart attacks.

9. (*Shall*, *will*, *should*) we go and watch the carnival procession, where the local people usually (*dress*) in their traditional clothes?

10. I believed he (*involved*) in that scandal, though he has never told me (*anything*, *something*, *everything*) about it since then.

11. I (*wait*) for the number 6 when I noticed an old man started to cross the road in front of the bus.

12. There was a terrible noise, but luckily, no one (*injure*). Two cars seriously (*damage*).

13. A pan of oil which (*leave*) unattended on the cooker yesterday could start a fire. For this reason, you (*can*, *should*, *may*) never leave one unattended while you (*cook*).

14. Speeding (*cause*) car accidents, that's why people should not drive too fast and they should always (*wear*) seat-belts.

15. Last week two tourists were miraculously saved from almost certain death by friendly dolphin while they (*swim*) in the sea near (a, *the*, -) Australian city of Darwin.

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16. Chocolate contains mild stimulants which (*help*) us concentrate and make us feel well.

17. Nowadays, with all the problems in the world, we should enjoy ourselves (*some, any, many*) way we can, but always within reason.

18. Fish (*be*) a big part of my diet as it is very healthy and high in protein. Now I eat (*many*) apples, grapes and pears than before and (*little*) red meat, cheese and butter.

19. (*At, in*) the beginning of the century men's clothes (*be*) similar to the formal suits worn today, but casual clothing such as jeans or sweat-shirts (*not, know*) then.

20. The only thing I haven't got is a balcony. If I (*have*) a balcony, I (*grow*) plants in pots.

WRITING

Tell about your future job. What skills should you have? What personal qualities should you have? What professional abilities are required for your future job? What perspectives do you expect?

Jobs in ICT (new jobs, new trends, new profiles)