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Учебное пособие предназначено для студентов 2-го курса факультета математики и информатики. Составлено в соответствии с программой по иностранным языкам для неязыковых специальностей вуза.

Цель пособия – сформировать навыки перевода литературы по специальности, развить навыки устной речи и ведения беседы по компьютерной тематике.

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ВВЕДЕНИЕ

Настоящее учебное пособие предназначено для студентов 2 курса факультета математики и информатики, обучающихся по специальностям «Прикладная математика», «Автоматизированные системы управления», «Информационные системы и технологии».

Цель пособия – сформировать у студентов навыки и умения в чтении и переводе оригинальной литературы по специальности, помочь в овладении компьютерной терминологией, развить навыки устной речи по специальной тематике.

Пособие состоит из восьми основных частей (units) и приложения (appendix). Каждая часть содержит текст из аутентичных английских или американских источников, лексику по тексту, лексические упражнения на отработку и закрепление активной лексики, а также коммуникативные и грамматические упражнения. Новая лексика закрепляется в разнообразных упражнениях: дать английские и русские эквиваленты, согласиться или не согласиться с утверждением, ответить на вопросы по тексту, подобрать синонимы и антонимы к данным словам, сопоставить слово с определением, закончить предложение, перевести предложение с русского языка на английский. Задачей коммуникативных упражнений является развитие навыков говорения и умения вести беседу на английском языке на профессиональные темы. В приложении представлены статьи по специальности из англоязычной публицистической прозы, которые могут быть использованы для занятий по внеаудиторному чтению. Также в приложении приведен список наиболее часто употребляемых разговорных фраз, схема для аннотирования статей, список неправильных глаголов.

По окончании курса студенты должны овладеть предлагаемой терминологией, усовершенствовать навыки чтения и перевода литературы по специальности, навыки работы со словарем, а также научиться вести беседу по специальности на английском языке.

Unit 1. History of computers

Text. History of computers

Let us take a look at the history of computers that we know today. The very first calculating device used was the ten fingers of a man's hands. This, in fact, is why today we still count in tens and multiples of tens. Then the abacus was invented, a bead frame in which beads are moved from left to right. People went on using abacus till the 16th century and they sometimes use it now because it can be understood without knowing how to read.

During the 17th and 18th centuries many people tried to find easy ways of calculating. J. Napier, a Scotsman, devised a mechanical way of multiplying and dividing, which is how the modern slide rule works. Henry Briggs used Napier's ideas to produce logarithm tables which all mathematicians use today. Calculus, another branch of mathematics, was independently invented by both Sir Isaac Newton, an Englishman, and Leibniz, a German mathematician.

The first real calculating machine appeared in 1820 as the result of several people's experiments. This type of machine, which saves a great deal of time and reduces the possibility of making mistakes, depends on a series of ten-toothed gear wheels. In 1830 Charles Babbage, an Englishman, designed a machine that was called "The Analytical Engine". This machine, which Babbage showed at the Paris Exhibition in 1855, was an attempt to cut out the human being altogether, except for providing the machine with the necessary facts about the problem to be solved. He never finished his work, but many of his ideas were the basis for building today's computers.

In 1930, the first analog computer was built by an American named Vannevar Bush. This device was used in World War II to help aim guns. Mark I, the name given to the first digital computer, was completed in 1944. The men responsible for this invention were Professor Howard Aiken and some people from IBM. This was the first machine that could figure out long lists of mathematical problems, all at a very fast rate. In 1946 two engineers at the University of Pennsylvania, J. Eckert and

J. Mauchly, built the first digital computer using parts called vacuum tubes. They named their invention ENIAC. Another important advancement in computers came in 1947, when John von Newman developed the idea of keeping instructions for the computer inside the computer's memory.

The first generation computers, which used *vacuum tubes*, came out in 1950. Univac I is an example of these computers which could perform thousands of calculations per second. In 1960 **the second generation of computers** was developed and these could perform work ten times faster then their predecessors. The reason of this extra speed was the use of *transistors* instead of vacuum tubes. The second generation computers were smaller, faster and more dependable than first generation computers. **The third generation computers** appeared on the market in 1965. These computers could do a million calculations a second, which is 1000 times as many as the first generation computers. Unlike the second generation computers, these are controlled by *tiny integrated circuits* and are consequently smaller and more dependable.

In **the fourth generation computers** integrated circuits have been greatly reduced in size. This is due to microminiaturization, which means that the circuits are much smaller than before; as many as 1000 tiny circuits now fit onto a single *chip*. A chip is a square or rectangular piece of silicon, usually from 1/10 to ¼ inch, upon which several layers of an integrated circuit are etched or imprinted, after which the circuit is encapsulated in plastic, ceramic or metal. The fourth generation computers are 50 times faster than third generation computers and can complete approximately 1,000,000 instructions per second.

At the rate computer technology is growing, today's computers might be obsolete tomorrow. It has been said that if transport technology had developed as rapidly as computer technology, a trip across the Atlantic Ocean today would take a few seconds.

Vocabulary

1. multiple – кратное число
2. abacus – счеты
3. bead – шарик, кости (на счетах)
4. to devise – придумывать, изобретать
5. to invent – изобретать
6. slide-rule (sliding-rule) – счетная логарифмическая линейка
7. calculus – исчисление
8. to save a great deal of time – экономить много времени
9. to depend on – зависеть от
10. to figure out – вычислять, понимать
11. advancement – успех, прогресс, достижение
12. predecessor – предшественник
13. dependable – надежный
14. rectangular – прямоугольный
15. silicon – кремний, силикон, силоксан
16. to etch – травить (вытравливать), гравировать
17. to encapsulate – заключать в капсулу, инкапсулировать
18. obsolete – устарелый
19. calculating device – счетное устройство
20. to multiply – умножать
21. to divide – делить
22. digital computer – цифровой компьютер
23. extra speed – дополнительная скорость
24. to perform – выполнять
25. to complete – заканчивать, завершать, выполнять
26. integrated circuits – интегральные схемы
27. to be controlled – контролироваться
28. to reduce in size – уменьшать в размере

29.consequently – следовательно

30.approximately – приблизительно

Task 1. Read and translate the text

Task 2. Give the Russian equivalents for the following words and word combinations:

1) to count in tens and multiples of tens; 2) without knowing how to read; 3) calculus; 4) to save a great deal of time; 5) to cut out the human being altogether; 6) advancement; 7) to perform thousands of calculations per second; 8) extra speed; 9) tiny integrated circuits; 10) approximately.

Task 3. Give the English equivalents for the following words and word combinations:

1) изобретать счеты; 2) продолжать использовать; 3) механический способ умножения и деления; 4) уменьшать вероятность ошибок; 5) вычислять длинные списки математических задач; 6) хранить инструкции для компьютера внутри компьютерной памяти; 7) предшественник; 8) более надежный; 9) прямоугольный кусочек кремния; 10) устарелый.

Task 4. Agree or disagree with the statements using phrases of agreement and disagreement. If you disagree, give the correct variant.

1. People still use abacus and fingers for calculating today.
2. The slide rule was invented in 15th century.
3. During the early 1880s many people worked on inventing a mechanical calculating machine.
4. Charles Babbage, an Englishman could well be called the father of computers.
5. The first computer was built in the USA.
6. Instructions used by computer have always been kept inside the computer's memory.

7. Using transistors instead of vacuum tubes did nothing to increase the speed at which calculations were done.
8. As computers evolved, their size decreased and their dependability increased.
9. Today's computers have more circuits than previous computers.
10 Computer technology has developed to a point from which new development in the field will take a long time to come.

Task 5. Answer the questions to the text.

1. Why do we still count in tens and multiples of tens?
2. Is the abacus still being used? Why?
3. What is a mechanical way of multiplying and dividing?
4. How did the first real calculating machine work?
5. What machine was an attempt to cut out human being?
6. For what purpose was the first analog computer built?
7. When was the first digital computer built?
8. What was an important advancement in computers in 1947?
9. What are the distinguishing features of four generations of computers?
10. What is a chip?
11. Can today's computers be obsolete tomorrow?

Task 6. Refer back to the text and find

Synonyms for the following words:

1. Machine
2. Designed
3. a lot
4. Errors
5. Solve

Antonyms for the following words:

1. Old
2. A few

3. To include
4. Contemporaries
5. Still in use

Task 7. Match the following words in column A with the statements in column B.

A	B
1. abacus	a. instrument used for doing multiplication and division
2. chip	b. used in mathematics
3. vacuum tubes	c. used to help aim guns
4. calculus	d. used in the first digital computers
5. analog computer	e. an instrument used for counting
6. digital computer	f. circuitry of fourth generation computers
7. transistors	g. invented by an American in 1944
8. microminiaturization	h. a branch of mathematics
9. slide rule	i. made computers smaller and faster
10. logarithm tables	j. the reduction of circuitry onto a chip

Task 8. Translate the sentences into English.

1. Сегодня мы всё ещё считаем десятками и числами кратными десяти, потому что первым вычислительным устройством было десять пальцев человеческой руки.
2. Счетами очень легко пользоваться, для этого даже не нужно уметь читать.
3. Логарифмические таблицы используются всеми математиками.
4. Первая настоящая вычислительная машина экономила много времени и уменьшала вероятность ошибки.
5. Чарльз Бэббидж изобрел «Аналитический двигатель» в 1820г.
6. Первый аналоговый компьютер использовался во Второй Мировой Войне для наведения оружия.

7. Первый цифровой компьютер мог вычислять длинные списки математических задач на очень большой скорости.
8. Использование транзисторов вместо вакуумных ламп было причиной дополнительной скорости компьютеров второго поколения.
9. Компьютеры третьего поколения контролировались крошечными интегральными схемами и, следовательно, были меньше и более надежны, чем их предшественники.
10. В компьютерах четвертого поколения интегральные схемы были сильно уменьшены в размере.
11. Компьютерные технологии развиваются очень быстро, и сегодняшние компьютеры могут стать устаревшими уже завтра.

Task 9. Complete the sentences.

1. Today we still count in tens and multiples of tens because…
2. The slide rule was invented in …
3. The first real calculating machine could…
4. … was an attempt to cut out the human being altogether.
5. … was used in World War II to help aim guns.
6. The first digital computer was called…
7. The first generation computers appeared in …
8. In the second generation of computers … were used.
9. Integrated circuits have been greatly reduced in size in …

Task 10. Give the summary of the text.

Task 11. Make up a plan of the text and retell it using conversational phrases.

Unit 2. Computers in our life.

Text. Computers changed the world.

Computers changed the world a lot. It helped a man to step forward into the future. Thanks to computers, space exploration came true, new designs of vehicles and other transportation were made; entertainment became more entertaining, medical science made more cures for diseases, etc. The computers influenced our lives in many ways. They did make life a lot easier. Without computers the world would be a harder place to live in.

Computers are being used more and more extensively in the world today for the simple reason that they are far more efficient than human beings. They have much better memories, can store great amount of information, solve a series of problems and make thousands logical decisions without becoming tired or bored. They can find solutions to problems in a fraction of the time it takes a human being to do the job. A computer can replace people in dull, routine work.

In fact, computers can do many things we do but faster and better. They can control machines at factories, make the weather forecast and even play chess, write poetry or compose music. Computers make all modern communications possible. They operate telephony, radio and television broadcasts. Local and wide area networks link companies and their departments, universities and just simple users all over the world.

It is difficult to say in what area of our life computers are not used. First of all it is science. Computers are used by scientists and researchers to perform difficult calculations and to build simulations and exact models.

Business uses computers to keep track of accounts, money, or items that they need. You may notice business people using computers a lot, especially the laptop computers, portable computers that can be taken to any place. You may see people use things like pie-charts and graphs when they present information to other business people at meetings. Most of those charts were made by computers. The business field uses the computers a lot for their companies and organizations.

Another area computers impacted on is the entertainment area. Most of the people like science fiction or action movies, especially the ones with special effects made by computers. Most of the movies today use computer graphics to make things more realistic. Some of the cartoons are completely made by computers. We can't help mentioning computer games. The constantly improving graphics and sound make them very popular.

Computers are also widely used in education. They help students in preparing projects and essays. They can type their reports in a word-processing program, search information in the Internet. There are also special educational programs on different subjects, so you can use a computer as a tutor, what is particularly important for disabled people. Teachers use computers as well. They use computers to keep track of grades, type out instruction for their students, etc.

Computer helped the medical area a lot. The pharmacists use computers to keep a record of what medication to give to a patient and the amount they need. Most computers in hospitals are used to keep data of patients and their status. Scientists need the help of computers to find cures for diseases.

In a very short period of time computers changed our life. They changed the way in which many kinds of work are performed. Computers can remove many of the routine and boring tasks from our lives, thereby leaving us with more time for interesting, creative work. The development in many fields would be impossible without computers. No doubt, our life became different with this great invention of the 20th century.

Vocabulary

1. to step forward into the future- шагнуть вперед в будущее
2. space exploration- исследование космоса
3. to come true- сбываться
4. to influence smth. – влиять на что-то
5. to be used more and more extensively- использоваться все более широко
6. to be far more efficient- быть гораздо более эффективным

7. to store great amount of information- хранить огромное количество информации
8. to solve a series of problems - решать ряд проблем
9. to become tired - уставать
10. to bore- надоедать, наскучить
11. to find solutions- находить решения
12. to replace people in dull, routine work – заменять людей в скучной, рутинной работе
13. to make the weather forecast- делать прогноз погоды
14. to perform difficult calculations – производить сложные вычисления
15. to build simulations – делать имитацию, моделирование
16. exact models – точные модели
17. to keep track of accounts- следить за счетами
18. to impact on smth.– влиять на что-то
19. science fiction- научная фантастика
20. to type – печатать
21. to search information – искать информацию
22. to find cures for diseases – находить лекарство от болезней
23. development in many fields – развитие во многих областях

Task 1. Read and translate the text.

Task 2. Give the Russian equivalents for the following word combinations:

1) to step forward into the future; 2) to make new designs of vehicles and other transportation; 3) to influence our lives in many ways; 4) to make thousands logical decisions; 5) to make all modern communications possible; 6) Local and wide area networks; 7) portable computers can be taken to any place; 8) science fiction; 9) to keep data of patients and their status; 10) to remove many of the routine and boring tasks.

Task 3. Give the English equivalents for the following word combinations:

1) исследование космоса; 2) использоваться все более широко; 3) хранить огромное количество информации; 4) заменять людей в скучной, рутинной работе; 5) связывать компании и их отделы; 6) производить сложные вычисления; 7) влиять на что-то; 8) следить за счетами; 9) искать информацию в Интернете; 10) находить лекарство от болезней.

Task 4. According to the text, make up a list of things computers can do faster and better than human beings. Add your own examples.

Task 5. Refer back to the text and find

Synonyms for the following words:

1. to connect
2. to keep
3. to influence
4. dull
5. to look for
6. boring

Antonyms for the following words:

1. boring
2. easy
3. approximate (a)
4. the same
5. narrow
6. desktop computer

Task 6. Answer the questions. Extend your answers to short situations.

1. What became possible with the invention of computers?
2. Why are computers being used more and more extensively in the world today?
3. Are computers used by scientists and researchers?

4. In what way are computers used in business?
5. Computers impacted on the entertainment area, didn't they?
6. Can computers help students in the study?
7. Did computers change the world?
8. In what way and for what purposes do you use a computer?
9. What does a computer mean for you?
10. Are computers really necessary in our life?

Task 7. **Discussion.**

Nowadays many people can't imagine their lives without computers. They are used at work and for entertainment. Is the computer one of the greatest or the most dangerous inventions? Read the following arguments. Think of some more. Discuss the problem in the class.

Computer is one of the greatest inventions	Computer is one of the most dangerous inventions
1. They save a lot of time. 2. They can do calculations and other things which are not interesting for people to do.	1. They are dangerous for your health. 2. People waste a lot of time playing computer games.
3. They help you to process information.	3. You can lose the results of your work if something goes wrong with the computer.
4. You can learn many things using computer as a tutor. 5. You can relax playing computer games.	4. Some people live in a virtual reality not in the real world. 5. Children cannot do the simplest arithmetic sums because they rely on computers.

Task 8. Translate the sentences into English.

1. По правде говоря, благодаря компьютерам многое стало возможным: исследование космоса, новые модели транспортных средств, лекарства от многих болезней и т.д.
2. Дело в том, что компьютеры гораздо более эффективны, чем люди, поэтому они все более широко используются в мире.
3. На самом деле, благодаря компьютеру я могу выполнять работу быстрее и лучше.
4. К счастью, компьютеры могут заменять человека в скучной, рутинной работе, т.к. они могут хранить огромное количество информации, решать ряд проблем и принимать тысячи логических решений, не уставая.
5. Компьютеры позволили сделать теле и радиовещание более качественными.
6. Очевидно, что компьютеры очень важны в работе ученых и исследователей. Они помогают сделать сложные вычисления и построить точные модели.
7. Насколько я знаю, деловые люди очень легко могут следить, например, за счетами, особенно когда они пользуются портативными компьютерами, которые можно взять с собой куда угодно.
8. Я уверен, вы согласитесь, что специальные эффекты, сделанные с помощью компьютерной графики, делают фильмы более реалистичными и захватывающими.
9. Что касается меня, я не могу представить свою жизнь без компьютерных игр. Я считаю, что это очень хороший способ расслабиться, а также существуют и развивающие игры.
10. Следующий пункт, который я хочу обсудить, касается использования компьютеров в образовании.
11. Это общеизвестно, что при подготовке проектов и эссе студенты могут широко использовать Интернет для поиска информации, а затем печатать и редактировать текст с помощью текстового редактора.

12. И более того, очень удобно использовать компьютер в качестве репетитора. Вы можете изучать любой предмет, не выходя из дома, что особенно важно для людей с ограниченными возможностями.
13. Я считаю, что компьютеры необходимы в жизни людей, хотя многие могут со мной не согласиться.

Task 9. Make up 5 sentences in English using the active vocabulary.

Task 10. Retell the text using conversational phrases.

Task 11. Complete the sentences, choosing the appropriate form of the words.

1. **repetition, repeat, repetitive, repeatedly, repeating.**

a) There are some people who ________________ arrive late to class whenever they are working on a program because they forget the time.
b) A computer can do ________________ operations without getting tired or bored.
c) __________________ , which can be a boring and unproductive task has been eliminated with the use of computers.
d) A computer can ________________ the same operation over and over again accurately without becoming tired or bored.

2. **comparison, compare, comparable, comparatively, comparative.**

a) Renting a computer isn't _________________ to owing one.
b) There is sometimes very little ________________ to be made between two brand-name microcomputers.
c) The difference in price of microcomputers from different manufacturers can be ___________________ small.

3. **repairs, repaired, repairable, repair.**

a) When the computer is down it needs to be _____________________.

b) Electronic equipment often takes a long time to ___________________.

c) ________________ to a computer system are often done by the same company which manufactured the system.

4. accuracy, accurate, accurately.

a) A computer is always _____________________ in its results if well prepared.

b) __________________ is one of the advantages of using computers in research or in statistical analysis.

c) Computers can produce results quickly and _____________________.

Unit 3.What is a computer?

Text. What is a computer?

Computer is a machine designed to store and process electronically, specially prepared pieces of information which are called data. Computers are made up of millions of electronic devices capable of storing data or moving it at enormous speed through complex circuits with different functions.

When talking about computers, both hardware and software need to be considered. Hardware refers to the machinery, whereas software refers to the programs which control and coordinate the activities of hardware while processing the data.

Software is the term used to describe the instructions that tell the hardware how to do a task. Without software instructions, the hardware doesn't know what to do. People, however, are the most important component of the computer system: they create the computer software instructions and respond to the procedures that those instructions present.

The basic job of a computer is the processing of information. The machine accepts information in the form of instructions called a program and characters called data, performs mathematical and/or logical operations and then supplies the results of these operations.

The program, which tells the computer what to do and the data, which provide the information needed to solve the problem, are kept inside the computer in a place called memory.

The information presented to the machine is the input, the internal manipulative operations – the processing, and the result – the output.

A computer has no known limit on the kinds of things it can do; its versatility is limited only by the imagination of the people using it.

During the early period of computer development, these machines were large, not so reliable and very expensive to own. A large number of support personnel were needed to keep the equipment operating. This has changed now that computers have become portable, more compact and cheaper.

Vocabulary

1. to store information – хранить информацию
2. to process data – обрабатывать данные
3. electronic devices – электронные устройства
4. to be capable – быть способным
5. software – программное обеспечение
6. hardware – аппаратное обеспечение
7. to control and coordinate the activities – контролировать и координировать действия
8. to create software instructions – создавать программные инструкции
9. to respond to the procedures – отвечать (реагировать) на процедуры
10. character – символ
11. supply the results – выдавать результаты
12. to be kept inside the computer – храниться внутри компьютера
13. input – ввод
14. output – вывод
15. versatility – многосторонность
16. reliable – надежный
17. support personnel – обслуживающий персонал
18. to keep the equipment operating – поддерживать работу оборудования

Task 1. Read and translate the text.

Task 2. Give the Russian equivalents for the following words and word combinations:

1) to be designed to store and process; 2) to be capable of storing data; 3) complex circuits with different functions; 4) to control and coordinate the activities of hardware; 5) to create the computer software instructions; 6) to accept information in

the form of instructions; 7) to supply the results; 8) to provide the information; 9) input; 10) support personnel.

Task 3. Give the English equivalents for the following words and word combinations:

1) специально подготовленная информация; 2) состоять из миллионов электронных устройств; 3) перемещать данные на огромной скорости; 4) нужно рассматривать как аппаратное, так и программное обеспечение; 5) во время обработки данных; 6) реагировать на процедуры; 7) решать проблему; 8) храниться внутри компьютера; 9) вывод; 10) надежный.

Task 4. Agree or disagree with the statements using phrases of agreement and disagreement. If you disagree, give the correct variant.

1. Computer is a machine designed to print documents.
2. Computer can move data at enormous speed.
3. Hardware refers to the programs which control and coordinate the activities of software while processing the data.
4. The basic job of a computer is storing of information.
5. The data is kept inside the computer memory.
6. Input is the information you give to the computer in order to be processed.
7. The possibilities of a computer are very limited.
8. Since the development of computers they have always been small, portable and available for all people.

Task 5. Translate the sentences into English.

1. Компьютеры способны хранить и перемещать специально подготовленную информацию, которая называется данные.
2. Данные перемещаются в компьютере на огромной скорости.
3. Программное обеспечение контролирует и координирует действия аппаратного обеспечения во время обработки данных.

4. Невозможно представить компьютерную систему без людей, которые создают программные инструкции.
5. После принятия информации и выполнения определенных операций машина выдает результат.
6. Память компьютера – это место, где хранятся программы и данные, необходимые для решения задачи.
7. Сейчас компьютеры более надежные, компактные и дешевые, чем были раньше, в начале их развития.

Task 6. Give the summary of the text.

Task 7. Retell the text using conversational phrases.

Task 8. Complete the sentences, choosing the appropriate form of the words.

1. **imagination, imagine, imaginable, imaginative, imaginary.**

a) A computer is limited in its ability by the__________________ of a man.
b) Some people are good at inventing ____________________ stories.
c) It is practically impossible to ________________ the speed at which a computer calculates numbers.

2. **addition, add, added, additional, additionally, additive.**

a) Many terminals can be __________________ to a basic system.
b) ________________ and subtraction are two basic mathematical operations.
c) When buying a system there is often no ________________ charge for the program.

3. **complication, complicate, complicated, complicating, complicatedly.**

a) There can be many _______________ involved in setting up a computer in an old building.

b) It is sometimes a very ________________ process getting into a computer installation for security reasons.

c) It is sometimes very ________________ to explain computer concepts.

4. difference, differ, different, differently, differential, differentiate.

a) There isn’t a very big ______________ in these computers.

b) There are many ________________ computer manufacturers today, and a buyer must be able to _________________ between the advantages and disadvantages of each.

c) The opinions of programmers as to the best way of solving a problem often _______________ greatly.

5. reliably, rely on, reliable, reliability.

a) Computers are ___________________ machines.

b) If you don’t know the meaning of a computer term, you can ______________ special computer dictionary.

c) Computers can do mathematical operations quickly and _______________.

Unit 4. Hardware and software.

Text 1. Software

A computer system implies a mixture of integrated parts working together. It consists of two parts. The first part is **hardware** – the physical, electronic devices that are thought of as "computers". The hardware consists of equipment: keyboard, mouse, monitor, system unit and other devices. The second part is **software** – the programs that control and coordinate the activities of the computer hardware and that direct the processing of data.

There are two major kinds of software: **system software** and **application software**. The user interacts with application software. System software enables the application software to interact with the computer hardware. System software is "background" software that helps the computer manage its own internal resources. The most important system software program is the operating system, which interacts between the application software and the computer. The operating system handles such details as running ("executing") programs, storing data and programs, and processing data.

Application software might be described as "end-user" software. Application software performs useful work on general-purpose tasks such as word processing and cost estimating. Application software may be packaged or custom-made.

Packaged software is programs prewritten by professional programmers that are typically offered for sale.

Custom-made software, or custom programs, is programs written for a specific purpose and for a specific organization. Using computer languages, programmers create this software to instruct the company computer to perform whatever tasks the organization wants. A program might compute payroll checks, keep track of goods in the warehouse, calculate sales commissions, or perform similar business functions.

General-purpose programs, or "basic applications", are widely used in nearly all career areas. One of these basic applications is a browser to navigate, explore, and find information in the Internet. The two most widely used browsers are Microsoft's Internet Explorer and Netscape's Communicator.

There are more advanced applications that are more specialized than the basic applications. They are widely used within certain career areas. One of the most exciting advanced applications is multimedia, which integrates video, music, voice, and graphics to create interactive presentations.

Text 2. Hardware.

Microcomputer hardware – the physical equipment – falls into five categories. They are input devices, the system unit, secondary storage, output devices and communications devices.

Input devices translate data and programs that humans can understand into a form that the computer can process. The most common input devices for microcomputers are the keyboard and the mouse. The keyboard on a computer looks like a typewriter keyboard, but it has additional specialized keys. A mouse is a pointing device that typically rolls on the desktop. It directs the insertion point, or cursor, on the display screen. As you glide the mouse, the arrow on the screen moves in the direction of your movement. A mouse has one or more buttons. You click (press and release the button one time) or double-click the mouse button to open the document or to start the program, for example.

The large metal box, or the case, with its contents (electronic circuitry) is called **the system unit**. The two most important components of the system unit are:

1. **The central processing unit (CPU)** controls and manipulates data to produce information. A microcomputer's CPU is contained on a single integrated circuit or microprocessor chip. These chips are called microprocessors.

2. **Memory**, also known as **primary storage** or **random access memory** (RAM), holds data and program instructions for processing the data. It also holds the processed information before it is output. Memory is sometimes referred to as temporary storage, because it will be lost if the electrical power to the computer is disrupted or cut off. Data and instructions are held in memory only as long as the electrical

power to the computer is on. Memory is located in the system unit on the tiny memory chips.

Secondary storage also holds data and programs. It stores permanently, that is, the data and programs remain even after the turning off the electrical power. The most important kinds of secondary storage devices are: floppy disks, hard disks, optical disks, flash cards.

Floppy disks, or diskettes, are widely used to store and transport data from one computer to another. They are called “floppy” because data is stored on a very thin flexible plastic disk. The disk rotates within a protective sturdy plastic cover. Today’s standard floppy disk is a ”3,5-inch 2HD” (two-sided high density) with a capacity to hold the equivalent of 400 type-written pages.

Hard disks are typically used to store programs and very large data files. Hard disks have much greater capacity and are able to access information much faster than floppy disks. Almost every microcomputer system has an internal hard disk that is permanently installed within the system cabinet. This disk is used to store system programs, application programs and data.

Optical disks are laser technology and have great capacity. There are two basic types of optical disks: **CD** and **DVD**. **CDs** (compact disks) are widely used today, they are used to store great amount of data. **DVD** stands for both digital versatile disk and digital video disk. Its capacity is far greater than CD’s. DVDs can be used for all the things that CDs are used for, but also they can distribute full-length motion pictures.

Flash cards have become very popular today, because they are very compact and therefore more convenient. Flash cards can hold great number of gigabytes of data.

Output devices are pieces of equipment that translate the processed information from the CPU into a form that humans can understand. One of the most important output devices is **the monitor** or **video display screen**, which resembles a television screen. The monitor displays text characters and video images. It allows you to see the result of your work going on inside the system unit. The image that you see is made up of tiny dots called pixels. The sharpness of the picture depends on the number and size of these pixels. The more pixels, the sharper the image. This is called resolution. Another important output device is **a printer**, a device that produces printed paper output.

Communications hardware sends and receives data and programs from one computer or secondary storage device to another. Many microcomputers use a modem. This device converts the electronic signals that can travel over a telephone line. A modem at the other end of the line then translates the signals for the receiving computer. A modem may be internal or located inside a microcomputer's system cabinet. It may also be a separate unit, or external.

Vocabulary

1. to imply – подразумевать
2. a mixture of integrated parts – смесь связанных деталей
3. equipment – оборудование
4. to direct the processing of data – направлять обработку данных
5. to interact – взаимодействовать
6. application software – прикладное программное обеспечение
7. internal resources – внутренние ресурсы
8. to run (execute programs) – запускать (выполнять) программы
9. to store data and programs – хранить данные и программы
10. word processing – текстовая обработка
11. payroll checks – проверка платежных ведомостей
12. explore – исследовать, изучать
13. a pointing device – указательное устройство
14. to roll on the desktop – кататься (скользить) на поверхности стола
15. to direct the insertion point (cursor) – направлять указатель (курсор)
16. to glide the mouse – скользить мышкой
17. to move in the direction of your movement – двигаться в направлении вашего движения

18. to press and release the button one time – нажать и отпустить кнопку один раз
19. the system unit – системный блок
20. to double-click the mouse – делать двойной щелчок мышью
21. to hold the processed information – содержать обработанную информацию
22. temporary storage – временное хранилище
23. if the electrical power is disrupted or cut off – если электричество прерывается или отключается
24. the electrical power is on – электричество включено
25. to store permanently – хранить постоянно
26. the turning off the electrical power – выключение электричества
27. flexible plastic disk – гибкий пластиковый диск
28. to have much greater capacity – иметь гораздо большую ёмкость
29. to access information – получить доступ к информации
30. to resemble – напоминать
31. to display text characters – показывать текстовые символы
32. image – изображение
33. to be made up of tiny dots – состоять из крошечных точек
34. resolution – разрешающая способность
35. to send and receive data – отправлять и получать данные
36. to convert the electronic signals – преобразовывать электронные сигналы
37. external unit – внешний элемент

Task 1. Read and translate the texts.

Task 2. Give the Russian equivalents for the following word combinations:

1) to imply a mixture of integrated parts working together; 2) to enable the application software to interact with the computer hardware; 3) programs prewritten by professional programmers; 4) custom programs might compute payroll checks; 5) a browser to navigate, explore, and find information in the Internet; 6) more advanced

applications; 7) to fall into five categories; 8) to look like a typewriter keyboard; 9) to direct the insertion point; 10) to be contained on a single integrated circuit; 11) to be located on the tiny memory chips; 12) a protective sturdy plastic cover; 13) to distribute full-length motion pictures; 14) internal or external unit; 15) to depend on the number and size of the pixels.

Task 3. Give the English equivalents for the following words and word combinations:

1) направлять обработку данных; 2) управлять своими внутренними ресурсами; 3) предлагаться для продажи; 4) выполнять подобные функции; 5) широко использоваться почти во всех профессиональных областях; 6) создавать интерактивные презентации; 7) устройства вывода; 8) переводить данные и программы в форму, которую может обработать компьютер; 9) делать двойной щелчок мышью; 10) хранить постоянно; 11) выключение электричества; 12) гибкий пластиковый диск; 13) ёмкость (вместимость); 14) показывать текстовые символы и видео изображения; 15) преобразовывать электронный сигнал.

Task 4. Refer back to the text and find

Synonyms for the following words:

1. to store
2. special
3. the same
4. to calculate
5. insertion point
6. small
7. hard

Antonyms for the following words:

1. soft
2. permanent
3. internal

4. input
5. to turn on
6. thick
7. to send

Task 5. Make up 5 sentences in English using active vocabulary.

Task 6. Agree or disagree with the statements using phrases of agreement and disagreement. If you disagree, give the correct variant.

1. System software is one of the kinds of application software.
2. The operating system interacts between the application software and the computer.
3. System software may be packaged or custom-made.
4. Packaged software is programs written for a specific purpose and for a specific organization.
5. One of the general-purpose programs is a browser to navigate, explore, and find information in the Internet.
6. Microcomputer hardware consists of input devices, the system unit, secondary storage, output devices and communications devices.
7. The processor is often referred to as CPU.
8. The keyboard and the mouse are output devices.
9. Memory is a permanent storage.
10. Hard disk is a secondary storage device.
11. The capacity of floppy disks is far greater than CD's.
12. The monitor is an input device with the help of which you enter information into the computer.
13. A modem converts the electronic signals that can travel over a telephone line.

Task 7. Translate the sentences into English.

1. Программное обеспечение контролирует и координирует работу аппаратного обеспечения.
2. Пользователь взаимодействует с прикладным программным обеспечением.
3. Операционная система – это самая важная программа системного программного обеспечения.
4. Операционная система управляет запуском программ, хранением и обработкой данных.
5. Клиентское программное обеспечение пишется для особых целей.
6. Одна из программ общего назначения – это браузер для навигации и поиска информации в Интернете.
7. Мультимедиа используется для создания интерактивных презентаций.
8. Мышь – это устройство указания, которое управляет курсором на экране.
9. Чтобы запустить программу, нужно сделать двойной щелчок мышью.
10. Память содержит обработанную информацию.
11. Данные будут потеряны, если электричество выключится.
12. Данные во вторичной памяти остаются постоянно, даже после выключения электричества.
13. Жесткие диски имеют гораздо большую ёмкость, чем гибкие диски.
14. Гибкий диск удобен для хранения текстовых файлов.
15. Если вы повредите гибкий диск, то все файлы, хранящиеся на нем, будут утеряны.
16. Жесткий диск установлен внутри системного блока и используется для хранения программ, приложений и данных.
17. Лазерные диски хранят огромное количество данных.
18. Модем – это устройство, преобразующее электронные сигналы, которые могут передаваться по телефонной линии.
19. Чтобы получить доступ к информации во всемирной паутине, используйте модем и подключитесь к Интернету.
20. У этих телевизоров разная разрешающая способность.

21. Большинство людей используют Интернет только для получения и отправки электронных сообщений.

Task 8. Match the following words in column A with the statements in column B.

A	B
1. hardware	a) “background software”
2. software	b) a pointing device that rolls on the desktop
3. memory	c)the physical, electronic devices
4. system software	d) “end-user software”
5. secondary storage	e) temporary storage
6. custom-made software	f) the programs
7. a mouse	g) permanent storage
8. application software	h) programs written for a specific purpose

Task 9. Work in pairs. Compose a dialogue.

Student A: You are a sales representative trying to sell your company’s notebook computer. You are presenting your product to the Sales Director of a manufacturing company which is thinking of buying 20 notebook computers for the staff. Try to persuade the Sales Director to buy your product.

Useful expressions:

It costs…

It runs/operates on…

It weighs…

Student B: You are a Sales Director of a manufacturing company. You are considering buying 20 notebook computers for your staff. Find out about all the specifications of the model in offer (type (size), processor type, operating speed, memory, display, power supply, cost, and other features). Decide whether it is suitable for your needs.

Useful expressions:

How much does it cost?

What power source does it use?

How big/heavy is it?

Task 10. Retell the texts using conversational phrases.

Task 11. Read the following guidelines to reduce eyestrain if you sit in front of the monitor for a long period of time. Do you follow them? Can you give any other pieces of advice, concerning work at the computer?

1. Use the computer in a room with even lighting. Adjust the controls on the monitor to vary the contrast and brightness of the display to suit the lighting in the room.
2. Keep the screen clean.
3. Adjust your chair so that you are looking down at the screen at a slight angle.
4. Turn the monitor away from the windows and bright lights to avoid glair.
5. Some of the controls on the monitor change the size and position of the image. You should set them for the largest image without losing any part of it.
6. You can set a screen saver to appear on your monitor screen if the computer sits idle for a period of time. Screen savers can reduce wear on your screen.

Task 12. Complete the sentences, choosing the appropriate form of the words.

1. **integration, integrate, integrated, integrating.**

a) Some computer manufactures have ____________________ both input and output devices into one terminal.

b) The success of any computer system depends on the __________________ of all its parts to form a useful whole.

c) _______________________ input and output devices into one peripheral has reduced the area needed for a computer installation.

2. **coordination, coordinate, coordinated, coordinating, coordinator.**

a) The control unit of a processor _________________ the flow of information between the arithmetic unit and the memory.

b) _________________ the many activities in a computer department is the job of the department head.

c) The ____________________ of a language institute has assistants to help him with the ________________ of the many programs, timetables and students results.

3. diagram, diagrammatic, diagrammatically, diagrammed.

a) Very often manufacturers provide _______________________ representations of the internal workings of a computer.

b) A ________________ is a drawing that shows how something is arranged rather than what it actually looks like.

c) A few ideas have been ____________________ for you in this book.

4. interchange, interchangeable, interchangeably, interchanged.

a) The words processor and central processing unit can be used ______________.

b) There is often an __________________ of ideas between computer scientists.

c) There is a big difference between an input and an output. These cannot be _____________________.

5. division, divide, divisible.

1 It is often difficult for computer science students to _________________ their time up proportionally between studying and programming.

1 Are all numbers ____________________ by three?

1 There is always a ___________________ of labor within a computer company.

Unit 5. Programs and programming languages.

Text. Programs and programming languages

Computers can deal with different kinds of problems if they are given the right instructions for what to do. Instructions are first written in one of the high-level languages, e.g. FORTRAN, COBOL, ALGOL, PL/I, PASCAL, BASIC, or C, depending on the type of problem to be solved. A program written in one of these languages is often called a source program, and it cannot be directly processed by the computer until it has been compiled, which means interpreted into machine code. Usually a single instruction written in a high-level language, when transformed into machine code results in several instructions. Here is a brief description of some of the many high-level languages:

FORTRAN acronym for FORmula TRANslation. This language is used for solving scientific and mathematical problems. It consists of algebraic formulae and English phrases. It was first introduced in the United States in 1954.

COBOL acronym for COmmon Business-Oriented Language. This language is used for commercial purposes. COBOL, which is written using English statements, deals with problems that do not involve a lot of mathematical calculations. It was first introduced in 1959.

ALGOL acronym for ALGOrithmic Language. Originally called IAL, which means International Algebraic Language. It is used for mathematical and scientific purposes. ALGOL was first introduced in Europe in I960.

PL/I Programming Language I. Developed in 1964 to combine features of COBOL and ALGOL. Consequently, it is used for data processing as well as scientific applications.

BASIC acronym for Beginner's All-purpose Symbolic Instruction Code. Developed in 1965 at Dartmouth College in the United States for use by students who require a simple language to begin programming.

C developed in the 1970s to support the UNIX operating system. C is a highly portable general-purpose language.

Other such languages are APL (developed in 1962), PASCAL (named after Blaise Pascal and developed in 1971), and LISP and PROLOG, both of which are used for work in artificial intelligence. LOGO is a development of LISP which has been used to develop computer-based training (CBT) packages.

When a program written in one of these high-level languages is designed to do a specific type of work such as calculate a company's payroll or calculate the stress factor on a roof, it is called an applications program. Institutions either purchase these programs as packages or commission their own programmers to write them to meet the specifications of the users.

The program produced after the source program has been converted into machine code is referred to as an object program or object module. This is done by a computer program called the compiler, which is unique for each computer. Consequently, a computer needs its own compiler for the various high-level languages if it is expected to accept programs written in those languages. For example, in order that an IBM RS/6000 may process a program in FORTRAN, it needs to have a compiler that would understand that particular model and the FORTRAN language as well.

The compiler is a systems program which may be written in any language, but the computer's operating system is a true systems program which controls the central processing unit (CPU), the input, the output, and the secondary memory devices. Another systems program is the linkage editor, which fetches required systems routines and links them to the object module (the source program in machine code). The resulting program is then called the load module, which is the program directly executable by the computer. Although systems programs are part of the software, they are usually provided by the manufacturer of the machine.

Unlike systems programs, software packages are sold by various vendors and not necessarily by the computer manufacturer. They are a set of programs designed to perform certain applications which conform to the particular specifications of the user. Payroll is an example of such a package which allows the user to input data - hours worked, pay rates, special deductions, names of employees - and get salary calculations as output. These packages are coded in machine language (0s and 1s) on magnetic tapes or disks which can be purchased, leased, or rented by users who choose the package that most closely corresponds to their needs.

Vocabulary

1. to deal with different kinds of problems – иметь дело с разного рода проблемами
2. high-level languages – языки высокого уровня
3. a source program – программа - источник
6. to compile – составлять, собирать, компилировать
7. to be interpreted into machine code – переводиться в машинный код
8. to result in – иметь результатом, приводить (к чему-либо)
9. to solve scientific and mathematical problems – решать научные и математические задачи
10. purpose – цель
11. scientific applications – научное применение
12. to require a simple language – требовать простого языка
13. to support – поддерживать
14. artificial intelligence – искусственный интеллект
15. to purchase – покупать
16. to meet the specifications of the users – отвечать условиям пользователей
17. to convert into machine code – превращать в машинный код
18. to be referred to as – называться
19. to accept – принимать
20. the linkage editor – редактор соединения
21. to link – соединять
22. vendor – продавец
23. to correspond to smb's needs – соответствовать чьим-то потребностям

Task 1. Read and translate the text.

Task 2. Give the Russian equivalents for the following word combinations:

1) to give the right instructions; 2) to be interpreted into machine code; 3) to result in several instructions; 4) to combine features of COBOL and ALGOL; 5) to require a simple language; 6) to support the UNIX operating system; 7) to meet the specifications of the users; 8) to be converted into machine code; 9) to fetch required systems routines; 10) the program, directly executable by the computer.

Task 3. Give the English equivalents for the following words and word combinations: 1) зависеть от типа решаемой проблемы; 2) программа-источник; 3)решать научные задачи; 4) использоваться для коммерческих целей; 5) искусственный интеллект; 6)научное применение; 7) покупать; 8) продавец; 9) обеспечиваться производителем; 10) соответствовать чьим-то потребностям.

Task 4. Agree or disagree with the statements using phrases of agreement and disagreement. If you disagree, give the correct variant.

1. A source program cannot be directly processed by the computer until it has been compiled.
2. FORTRAN is not as efficient as COBOL in solving scientific problems.
3. COBOL is written using English statements.
4. BASIC was developed to help students.
5. ALGOL is used for work in artificial intelligence.
6. PL/I is used for mathematical purposes.
7. A computer needs its own compiler for the various high-level languages.
8. The compiler is a systems program which may be written only in PL/I.
9. Software packages are not written in high-level languages.
10. Different high-level languages suit different problems.

Task 5 Complete the sentences.

1. A______________________ is a program written in one of the high-level languages.

2 A program written in a high-level language must be interpreted into______________ ________________before the computer will read and process it.

3 A program designed to perform a specific task is called an_________________.

4 The ________________or _________________is the program produced when the original program has been converted into machine code.

5 A_________________ is a program that converts a high-level language into machine code.

6 The systems program which fetches required systems routines and links them to the object module is known as the________________ _________________.

7 The________________ ________________ is the program directly executable by the computer.

Task 6. Refer back to the text and find

Synonyms for the following words:

1. converted
2. buy
3. brings
4. agree with, comply with
5. rented

Antonyms for the following words:

1. lengthy
2. unchanged
3. separate
4. rejected
5. depending on

Task 7. Ask your group mates the questions about the text.

Task 8. Translate the sentences into English.

1. Инструкции сначала пишутся на одном из языков высокого уровня, в зависимости от решаемой проблемы.

2. Компьютеры могут иметь дело с разного рода задачами, если им давать правильные инструкции.
3. Когда программа, написанная на одном из языков высокого уровня, создается для выполнения особого типа работы, она называется прикладная программа.
4. Программа-источник должна быть переведена в машинный код, чтобы компьютер мог с ней работать.
5. FORTRAN используется для решения научных и математических задач.
6. COBOL был разработан для использования в коммерческих целях.
7. Программисты пишут прикладные программы так, чтобы они отвечали условиям пользователей.
8. Программные пакеты можно купить у различных продавцов, не обязательно у производителей компьютеров.

Task 9. Match the following words in column A with the statements in column B.

A	B
1. source program	a. to solve a particular problem
2. high-level languages	b. can be executed by the computer directly
3. applications program	c. program translated into machine code
4. software packages	d. connects routines with programs in memory
5. object program	e. examples are COBOL and PASCAL
6. compiler	f. directs the processes of the computer CPU and peripherals
7. systems program	g. groups of programs designed to solve a specific problem
8. operating systems	h. written in a high-level language
9. linkage editor	i. computer needs one for each high-level language
10. load module	j. deals with the running of the actual computer not with programming problems.

Task 10. Give the summary of the text.

Task 11. Retell the text using conversational phrases.

Task 12. Complete the sentences, choosing the appropriate form of the words.

1. **instruction, instruct, instructed, instructor.**

a) Our maths ________________ explained to us the principles of binary arithmetic.

b) We were ________________ to document our programs very carefully.

c) Both _________________ and data have to be changed to machine code before the computer can operate on them.

2. **compilation, compiler, compile, compiled.**

a) Our university computer does not have a PASCAL ________________.

b) Usually, a programmer _______________ his program before he puts in the data.

c) A source program cannot be directly processed by the computer until it has been _________________.

3. **result, results, resulting.**

a) The linkage editor links system routines to the object module. The _______________ program, referred to as the load module, is directly executable by the computer.

b) The _______________ of these mathematical operations were obtained from the university computer.

4. **specification, specify, specific, specified, specifically.**

a) Our company brought three packages with very _________________ applications: payroll, accounts receivable and accounts payable.

b) An applications program is designed to do a __________________ type of work, such as calculating the stress factor on a roof.

c) Did the analyst give the new programmer the __________________ necessary to start on the project?

5. description, describe, described.

a) The introductory text includes a brief __________________ of many high-level languages.

b) It is difficult to _________________ the memory of a microcomputer without referring to “chips”.

Unit 6. Operating systems MS-DOS and Windows.

Text 1. MS-DOS and its main terms.

What is MS-DOS.

The Microsoft MS-DOS operating system is like a translator between you and your computer. The programs in this operating system allow you communicate with your computer, your disk drives and your printer, letting you use these resources to your advantage.

MS-DOS also helps you to manage programs and data. Once you have loaded MS-DOS into your computer's memory, you can compose letters and reports, run programs and languages such as Microsoft GW-BASIC, and use devices such as printers and disk drives.

Terms you should know.

When you are introduced to a new or different idea, you must often learn a new set of words to understand the idea. The MS-DOS operating system is not an exception. The following pages explain some terms you will need to know so that you can read and use the manuals.

Program.

Programs, often called application programs, or applications, or software are series of instructions written in computer languages. These instructions are stored in files and tell your computer to perform a task. For example, a program might tell your computer to alphabetically sort a list of names. Spreadsheets and word processors are other examples of programs.

File.

A file is a collection of related information, like the contents of a file folder in a desk drawer. File folders, for instance, might contain business letters, office memos, or monthly sales data. Files on your disks could also contain letters, memos, or data.

For example, your MS-DOS master disk contains more than thirty files. Your other disks may contain files that you've created, or that came with the disk.

Filename.

Just as each folder in a file cabinet has a label, each file on a disk has a name. This name has two parts: a filename and an extension. A filename can be from one to eight characters in length, and can be typed in uppercase or lowercase letters. MS-DOS automatically converts filenames to uppercase letters.

Filename extensions consist of a period followed by one, two or three characters. Extensions are optional, but it's a good idea to use them, since they are useful for describing the contents of a file to you and to MS-DOS. For instance, if you want to be able to quickly identify your report files, you can add the filename extension .rpt to each one. Here's an example of a filename with this extension:

progress. rpt

Directory.

A directory is a table of contents for a disk. It contains the names of your files, their sizes, and the dates they were last modified.

Volume label.

When you use a new disk, you can put a label on the outside of it to help you identify its contents. You can also give your disks an internal name, called a volume label.

You can look at the volume label on a disk by displaying its directory. Some programs may look at the volume label to see if you are using the correct disk. So make sure that you label your disks.

Disk drive.

To use the files or programs that are on a floppy disk, you must first insert the disk into a floppy disk drive. Floppy disk drives are commonly referred to as the A drive and the B drive. A hard disk drive, normally installed inside your computer, is usually referred to as the C drive.

Drive name.

A complete drive name consists of a drive letter and a colon. When using a command, you may need to type a drive name before your filename to tell MS-DOS where to find the disk that contains your file. For example, suppose you have a file named finances.doc on the disk in drive B. To tell MS-DOS where to find this file you would type the drive name before the filename:

b: finances.doc

Command.

Just as you will run programs to create and update files containing your data, you will need to run some special programs, called MS-DOS commands, which let you work with entire files.

When you type MS-DOS commands, you are asking the computer to perform tasks. For example, when you use the diskcopy command to copy your MS-DOS master disk, you are using a file named diskcopy.exe, whose task is to copy the files on the MS-DOS disk.

Error messages.

If you or your computer makes a mistake when using a device or MS-DOS command, MS-DOS displays an appropriate error message. Error messages apply to general errors (such as misspelling a command) or to device errors (such as trying to use a printer that is out of paper).

Memory.

Memory is a place in your computer where information is actively used. When you run a program, MS-DOS stores that program and the files it uses in the computer's available memory. Some programs and files use more memory than others, depending on how large and complex they are.

Devices.

Whenever you use your computer, you supply the information (input) and expect a result (output). Your computer uses pieces of hardware called devices to receive input and send output.

For example, when you type a command, your computer receives input from your keyboard and disk drive, and usually sends output to your screen. It can also receive input from a mouse, or send output to a printer. Some devices, such as disk drives, perform both input and output.

Device names.

Device names are special names given to each device that your computer "knows" about. An example of a device name is LPT 1, which stands for the first parallel line printer connected to your computer.

When you add a new device, such as a mouse, to your computer, you sometimes need to tell MS-DOS about it by setting up (configuring) your computer for that device.

Vocabulary.

1. to allow – позволять
2. to use these resources to your advantage – использовать эти ресурсы для вашей выгоды (преимущества)
3. to manage programs and data – управлять программами и данными
4. to load – загружать
5. to run programs – запускать программы
6. the manual – руководство, инструкция
7. to be stored in files – храниться в файлах
8. to perform a task – выполнять задание (задачу)

9. to sort a list of names – сортировать список имен
10. spreadsheet – электронная таблица
11. related information – сходная (связанная) информация
12. a file folder – папка
13. a desk drawer – ящик стола
14. a label – ярлык
15. to contain – содержать
16. extension – расширение
17. uppercase letters – заглавные буквы
18. lowercase letters – строчные буквы
19. to quickly identify – быстро идентифицировать
20. a volume label – метка тома
21. an internal name – внутреннее имя
22. to insert – вставлять
23. to create and update files – создавать и изменять (модернизировать) файлы
24. error message – сообщение об ошибке
25. to supply the information – вводить информацию
26. to expect a result – ожидать результат
27. pieces of hardware – части аппаратного обеспечения
28. device – устройство
29. to set up the computer – настраивать компьютер

Task 1. Read and translate the text.

Task 2. Give the Russian equivalents for the following words and word combinations:
1) to allow you communicate with your computer; 2) to manage programs and data; 3) to compose letters and reports; 4) manual; 5) to perform a task; 6) a collection of related information; 7) the contents of a file folder in a desk drawer; 8) from one to eight characters in length; 9) extensions are optional; 10) to be referred to as the A

drive; 11) to let you work with entire files; 12) to display an appropriate error message; 13) computer's available memory; 14) devices to receive input and send output.

Task 3. Give the English equivalents for the following words and word combinations: 1) позволять вам использовать эти ресурсы для вашей выгоды; 2) загружать MS-DOS в память компьютера; 3)запускать программы и языки; 4) инструкции хранятся в файлах; 5) отсортировать список имен в алфавитном порядке; 6) электронная таблица; 7) содержать деловые письма; 8) может печататься заглавными или строчными буквами; 9) быть полезным для описания содержания файла; 10) вставить диск в дисковод; 11) создавать и изменять файлы, содержащие ваши данные; 12) неправильное написание команды; 13) вводить информацию; 14) настраивать компьютер.

Task 4. Agree or disagree with the statements using phrases of agreement and disagreement. If you disagree, give the correct variant.

1. MS-DOS helps you to manage programs and data.
2. You can't run programs and use printers and disk drives using MS-DOS.
3. Application programs are series of instructions written in computer languages.
4. A file folder is referred to as a spreadsheet.
5. A filename can be typed only in uppercase letters.
6. Extensions are optional.
7. A directory is desk drawer.
8. A hard disk drive is usually referred to as the A drive.
9. A complete drive name consists of a drive letter and a point.
10. Error messages apply to general errors or to device errors.
11. The programs and files use the volume of memory, depending on how large and complex they are.
12. When you type a command, your computer sends output to your keyboard.

Task 5. Complete the sentences.

1. The programs in the operating system MS-DOS allow you …
2. Once you have loaded MS-DOS into your computer's memory, you can …
3. You should learn new terms to …
4. An application program is …
5. A file is …
6. Each file on a disk has …
7. A filename can be …
8. In order to quickly identify your files you should …
9. A directory is …
10. To use the files on a floppy disk you must …
11. A command is …
12. MS-DOS displays an error message when …
13. Memory is …
14. Supplying the information to the computer is called …

Task 6. Refer back to the text and find

Synonyms for the following words:

1. to allow
2. to supply
3. a result
4. a cabinet
5. a mistake

Antonyms for the following words:

1. hard
2. different
3. the rule
4. slowly
5. to send

Task 7. Translate the sentences into English.

1. Операционная система позволяет использовать все ресурсы компьютера для вашей выгоды.

2. Вы можете печатать заглавные и строчные буквы в командной строке DOS.

3. Чтобы выполнить задачу, нужно загрузить и запустить программу.

4. Прежде, чем работать с устройством, внимательно прочтите руководство.

5. Если на вашем ПК есть специальная прикладная программа, вы можете найти сходную информацию и отсортировать список имен.

6. Прикладные программы хранятся в файлах и сообщают вашему компьютеру выполнить задачу.

7. Папки могут содержать различную информацию, например деловые письма, заметки, доклады и т.д.

8. Внутреннее имя диска называется меткой тома.

9. Чтобы изменить метку тома, нужно войти в DOS и набрать специальную команду на клавиатуре.

10 помощью имени файла с расширением вы быстро идентифицируете свои файлы.

11. Когда вы выполняете задание, вам нужны специальные программы, чтобы создавать и изменять файлы.

12.Когда компьютер или вы делаете ошибку, используя устройство или команду, MS-DOS показывает сообщение об ошибке.

13.Сообщения об ошибках помогает вам понять причину ошибок в вашей системе.

14.Работая на компьютере, вы используете части аппаратного обеспечения, называемые устройствами ввода и вывода.

15.MS-DOS хранит программы файлы в доступной памяти компьютера.

16.Добавляя новое устройство к вашему компьютеру, вы должны настроить компьютер на это устройство.

Task 8. Make up 5 sentences in English using active vocabulary.

Task 9. Give the summary of the text.

Task 10. Retell the text using conversational phrases.

Text 2. Windows.

Microsoft Windows (or simply Windows) is a software program that makes your PC easy to use. It does this by simplifying the computer's user interface.

The word interface refers to the way you give your computer commands, the way you interact with it.

Usually the interface between you and the computer consists of the screen and the keyboard: you interact with the computer by responding to what's on the screen, typing in commands at the DOS command line to do your work.

DOS often isn't very intelligent at interpreting your commands and most people consider it awkward or intimidating as a user interface. These commands can be confusing and difficult to remember. Who wants to learn lots of computer commands just to see what's on your disk, copy a file, or format a disk?

Windows changes much of this. What's been missing from the PC is a program that makes your computer easy to use. Windows is just such a program. With Windows you can run programs, enter and move data around and perform DOS-related tasks simply by using a mouse to point at objects on the screen. Of course, you also use a keyboard to type in letters and numbers.

Windows interprets your actions and tells DOS and your computer what to do.

In addition to making DOS housekeeping tasks, such as creating directories, copying files, deleting files, formatting disks, and so forth, easier, Windows makes running your favorite applications easier too. (An application is a software package that you use for a specific task, such as word processing.)

Windows owes its name to the fact that it runs each program or a document in its own separate window. (A window is a box or a frame on the screen.). You can have numerous windows on the screen at a time, each containing its own program and/or document. You can then easily switch between programs without having to close one down and open the next.

Another feature is that Windows has a facility called the Clipboard that lets you copy material between dissimilar document types, making it easy to cut and paste information from, say, a spreadsheet into a company report or put a scanned photograph of a house into a real state brochure. In essence, Windows provides the means for seamlessly joining the capabilities of very different application programs. Not only can you paste portions of one document into another, but by utilizing more advanced document-linking features those pasted elements remain “live”. That is, if the source document (such as some spreadsheet data) changes, the result will also be reflected in the secondary document containing the pasted data.

As more and more application programs are written to run with Windows, it’ll be easier for anyone to learn how to use new programs. This is because all application programs that run in Windows use similar commands and procedures.

Windows comes supplied with a few of its own handy programs. There’s a word-processing program called Word, a drawing program called Paint, a communications program called Terminal for connecting to outside information services over phone lines, small utility programs that are helpful for keeping track of appointments and notes, a couple of games to help you escape from your work, and a few others.

Years of research went into developing the prototype of today’s popular user interfaces. It was shown in the early 1980s that the graphical user interface, in conjunction with a hand-held pointing device (now called the mouse), was much easier to operate and understand than the older-style keyboard-command approach to controlling a computer. A little-known fact is that this research was conducted by the Xerox Corporation and first resulted in the Xerox Star computer before IBM PCs or Macintoshes existed. It wasn’t until later that the technology was adapted by Apple Computer for its Macintosh prototype, the Lisa.

Vocabulary.

1. to make smth. easy to use – делать что-то легким в использовании

2. compatible – совместимый
3. to simplify the computer's user interface – упрощать пользовательский интерфейс компьютера
4. to interact – взаимодействовать
5. to respond to what's on the screen – реагировать на то, что на экране
6. to enter and move data around – вводить и перемещать данные
7. numerous windows – множество окон
8. to switch between programs – переключаться между программами
9. feature – черта
10. facility – способность, возможность
11. dissimilar document types – разные типы документов
12. to cut and paste information – вырезать и вставлять информацию
13. in essence – в сущности
14. capability – способность
15. to utilize – использовать
16. to be reflected – отражаться
17. handy – удобный
18. utility programs – вспомогательные программы
19. to keep track of – следить, отслеживать

Task 1. Read and translate the text.

Task 2. Give the Russian equivalents for the following word combinations:
1) to make your PC easy to use; 2) by simplifying the computer's user interface; 3) to be confusing and difficult to remember; 4) to perform DOS-related tasks; 5) DOS housekeeping tasks; 6) to have numerous windows on the screen at a time; 7) a facility called the Clipboard; 8) to copy material between dissimilar document types; 9) to paste portions of one document into another; 10) a hand-held pointing device.

Task 3. Give the English equivalents for the following words and word combinations:

1) то, как вы взаимодействуете с компьютером; 2) реагировать на то, что на экране; 3) вводить и перемещать данные; 4) указывать на объекты на экране; 5) запускать программу в отдельном окне; 6) переключаться между программами; 7) черта; 8) вырезать и вставлять информацию; 9) отражаться во вторичном документе; 10) вспомогательные программы.

Task 4. Agree or disagree with the statements using phrases of agreement and disagreement. If you disagree, give the correct variant.

1. The word interface refers to the way you output information.
2. You interact with the computer by responding to what's on the screen.
3. Many people consider Windows awkward and intimidating as a user interface.
4. DOS commands can be confusing and difficult to remember.
5. With Windows it is difficult to enter and move data around.
6. Windows runs each program or a document in its own separate circle.
7. You can have many windows on the screen at a time.
8. If you want to switch between programs in Windows you have to close one down and open the next.
9. Clipboard is a facility that lets you copy material between similar document types.
10. All applications that run in Windows use similar commands and procedures.
11. Windows comes supplied with handy programs.
12. Paint is a word-processing program.
13. The first research in developing a hand-held pointing device was conducted by the Xerox Corporation.

Task 5. Answer the questions to the text:

1. What are the advantages of Windows?
2. What is Windows?
3. Why is it called Windows?
4. What is another feature of Windows?

5. Why will it be easier for anyone to learn how to use new programs?
6. What is a utility program?
7. What research was conducted by the Xerox Corporation?
8. What operating system do you use and why?
9. What versions of Windows are there nowadays? Which of them are the best?

Task 6. Refer back to the text and find

Synonyms for the following words:

1. to use
2. facility
3. to make easy
4. to react

Antonyms for the following words:

1. simple
2. to cut
3. similar
4. to close

Task 7. Translate the sentences into English.

1. Одной из частей аппаратного обеспечения компьютера является клавиатура, с помощью которой вы взаимодействуете с ним.
2. Новое программное обеспечение совместимо с большинством компьютеров.
3. Вы взаимодействуете с компьютером, реагируя на то, что на экране.
4. Windows дает вам возможность вводить и перемещать данные, копировать и удалять файлы, вырезать и вставлять информацию.
5. Windows более удобная операционная система, чем DOS из-за упрощенного пользовательского интерфейса.
6. Команды DOS могут быть запутанными и трудными для запоминания.

7. Windows запускает каждую программу в отдельном окне.
8. Windows XP сам подбирает драйвера для аппаратного обеспечения.
9. Буфер обмена – это очень важная черта Windows, которая позволяет вам копировать материал между разными типами документов.
10. Если документ-источник изменяется, результат отражается во вторичном документе, содержащем вставленные данные.
11. Вспомогательные программы позволяют вам использовать много возможностей вашего компьютера.
12. Первые исследования по разработке прототипа Windows проводились корпорацией Ксерокс.

Task 8. Make up 5 sentences in English using active vocabulary.

Task 9. Retell the text using conversational phrases.

Task 10. Work in pairs. Compose a dialogue.

Student A: You are going to buy a computer and ask your friend to advise what operating system you'd better to set up. Ask about advantages and disadvantages of different operating systems.

Student B: You are a computer adept and you should advise your friend what operating system is the best and why.

Task 11. Complete the sentences, choosing the appropriate form of the words.

1. function, functional, functionally.

a) Learning to program is a ________________ part of any course in computer science.

b) The central processing unit has many ____________________.

c) In order for the computer to _________________ properly, there should be no fluctuation in the electrical current.

2. sequence, sequential, sequentially.

a) The control unit of the CPU directs the ________________ operations of the system.

b) Data must be presented __________________ to the processor unless the computer is programmed otherwise.

c) A program must be a detailed account of the ________________ the processor must follow to solve the problem.

3. logic, logical, logically.

a) To be a good programmer, one must be _______________ in one's approach to a problem.

b) The _________________ operations performed by the arithmetic-logical unit are under the control of the control unit.

c) A program must be __________________ organized if successful results are to be obtained.

4. connection, connect, connected, connective.

a) On-line equipment is usually _________________ to the computer.

b) Malfunctioning equipment can often be traced to a bad electrical ___________________.

c) Whenever one is writing computer science related information or not, the use of __________________ is very important.

d) When your device doesn't work make sure the _________________ cable is not damaged.

5. computer, compute, computerized, computed, computation.

a) The banking industry has become more and more __________________.

b) It is a fact that humans cannot __________________ as fast as ____________________.

c) The ____________________ requirements necessary to produce the payroll for a large company take a very long time.

Task 12. Read the following sentences and circle the prefixes. For each word that has a prefix, try to decide what the prefix means.

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 bi-annual 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.

Task 13. 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 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.

Unit 7. Computer networks.

Text. Computer networks.

Computer networks link computers by communication lines and software protocols, allowing data to be exchanged rapidly and reliably. Traditionally, networks have been split between wide area networks (WANs) and local area networks (LANs). A WAN is a network connected over long distance telephone lines, and a LAN is a localized network usually in one building or a group of buildings close together. The distinction, however, is becoming blurred. It is now possible to connect up LANs remotely over telephone links so that they look as though they are a single LAN. Originally, networks were used to provide terminal access to another computer and to transfer files between computers. Today, networks carry e-mail, provide access to public databases and bulletin boards, and are beginning to be used for distributed systems. Networks also allow users in one locality to share expensive resources, such as printers and disk-systems. Distributed computer systems are built using networked computers that co-operate to perform tasks. In this environment each part of the networked system does what it is best at. The high-quality bit-mapped graphics screen of a personal computer or workstation provides a good user interface. The mainframe, on the other hand, can handle large numbers of queries and return the results to the users. In a distributed environment, a user might use his PC to make a query against a central database. The PC passes the query, written in a special language (e.g. Structured Query Language - SQL), to the mainframe, which then parses the query, returning to the user only the data requested. The user might then use his PC to draw graphs based on the data. By passing back to the user's PC only the specific information requested, network traffic is reduced. If the whole file were transmitted, the PC would then have to perform the query itself, reducing the efficiency of both network and PC.

In the 1980s, at least 100,000 LANs were set up in laboratories and offices around the world. During the early part of this decade, synchronous orbit satellites lowered the price of long-distance telephone calls, enabling computer data and television signals to be distributed more cheaply around the world. Since then, fibre-optic cable has been installed on a large scale, enabling vast amounts of data to be transmitted at a very high speed using light signals.

The impact of fibre optics will considerably reduce the price of network access. Global communication and computer networks will become more and more a part of professional and personal lives as the price of microcomputers and network access drops. At the same time, distributed computer networks should improve our work environments and technical abilities.

Vocabulary.

1. to link computers – соединять компьютеры
2. to allow – позволять
3. to exchange data rapidly and reliably – обмениваться данными быстро и надежно
4. blurred distinction – расплывчатое различие
5. remote – отдаленный
6. to provide terminal access – обеспечивать конечный доступ
7. to transfer files between computers – переносить (перемещать) файлы между компьютерами
8. to share expensive resources – делиться дорогими ресурсами
9. pass the query – передавать запрос
10. to parse – анализировать синтакс
11. the requested data – запрашиваемые данные
12. to transmit the file – передавать файл
13. to reduce the efficiency – снижать эффективность
14. to set up – устанавливать
15. to lower the price – снижать цену
16. to enable – давать возможность
17. fibre – волокно
18. to be distributed more cheaply – распространяться более дешево
19. to reduce the price of network access – снижать цену сетевого доступа

Task 1. Read and translate the text.

Task 2. Give the Russian equivalents for the following word combinations:

1) to link computers by communication lines and software protocols; 2) networks have been split between wide area networks and local area networks; 3) to connect up LANs remotely; 4) to provide terminal access to another computer; 5) to provide access to public databases and bulletin boards; 6) to be able to handle large numbers of queries; 7) to parse the query; 8) to reduce the efficiency of both network and PC; 9) to lower the price of long-distance telephone calls; 10) to reduce the price of network access.

Task 3. Give the English equivalents for the following word combinations:

1) передавать данные быстро и надежно; 2) сеть, соединенная по междугородним телефонным линиям; 3) расплывчатое различие; 4) перемещать файлы между компьютерами; 5) позволять делиться дорогими ресурсами; 6) возвращать запрашиваемые данные; 7) передавать весь файл; 8) устанавливать сеть; 9) позволять данным распространяться более дешево; 10) улучшать технические возможности.

Task 4. Read the summary of the text and fill in the gaps using the list of words below.

Computer networks link computers locally or by external communication lines and software __________________, allowing data to be exchanged rapidly and reliably. The __________________ between local area and wide area networks is, however, becoming unclear. Networks are being used to perform increasingly diverse tasks, such as carrying e-mail, providing access to public databases, and for __________________. Networks also allow users in one locality to share resources.

Distributed systems use networked computers. PCs or __________________ provide the user __________________. Mainframes process __________________ and return the results to the users. A user at his PC might make a query against a central database. The PC passes the query, written in a special language, to the mainframe, which then ________________ the query, returning to the user only the data requested. This allows both the network and the individual PC to operate efficiently.

In the 1980s, at least 100,000 __________________ were set up worldwide. As __________________ orbit satellites have lowered the price of long-distance telephone calls, data can be transmitted more cheaply. In addition, __________________ cable has been installed on a large scale, enabling vast amounts of data to be transmitted at a very high speed using light signals. This will considerably reduce the price of network access, making global networks more and more a part of our professional and personal lives. Networks should also improve our work __________________ and technical abilities.

distinction	fibre-optic	protocols	synchronous
distributed systems	LANs	queries	workstations
environments	parses	screen handling	

Task 5. Match these words and phrases with their definitions.

1. protocol	a. analyze the syntax of a string of input symbols
2. bulletin board	b. a teleconferencing system allowing users to read messages left by other users
3. user interface	c. agreement governing the procedures used to exchange information between co-operating computers
4. make a query	d. means of communication between a human user and a computer system
5. parse	e. taking place at exactly the same time as something else
6. synchronous	f. request a search

Task 6. Refer back to the text and find

Synonyms for the following words:

1. unclear

2. place
3. carry out
4. cost
5. world-wide
6. to reduce

Antonyms for the following words:

1. conflict
2. slowly
3. preventing
4. tiny
5. increase
6. cheap

Task 7. Answer the questions to the text. Extend your answers to short situations.

1. How do computer networks link computers?
2. What types of networks do you know?
3. What is the difference between them?
4. For what purpose were networks originally used?
5. What are the functions of networks today?
6. What is a distributed computer system?
7. Can a user make a query against a central database in a distributed environment?
8. What would the PC do if the whole file were transmitted?
9. Why did the price of long-distance telephone calls drop?
10. What impact of fibre optics there will be?

Task 8. Translate the sentences into English.

1. Главная функция компьютерных сетей – обмениваться данными быстро и надежно.

2. Компьютерные сети позволяют получать доступ к публичным базам данных и доскам объявлений.
3. Компьютер передает запрос главному компьютеру, который затем его анализирует и возвращает запрашиваемые данные.
4. Огромное количество данных передается на большой скорости благодаря установки оптоволоконных кабелей.
5. С помощью компьютерных сетей пользователи могут делиться дорогими ресурсами, такими, как принтеры.
6. Сетевой путь уменьшается, т.к. компьютеру пользователя передается только определенная запрашиваемая информация.
7. Изначально сети использовались для обеспечения конечного доступа к другому компьютеру и передачи файлов между компьютерами.
8. Цена на междугородние телефонные звонки снизилась, что дало возможность компьютерным данным и телевизионным сигналам передаваться более дешево по всему миру.
9. Компьютерные сети дают возможность улучшить качество работы и технические возможности.

Task 9. Give the summary of the text.

Task 10. Retell the text using conversational phrases.

Task 11. Complete the sentences, choosing the appropriate form of the words.

1. alteration, alter, altered

a) When a program doesn't work properly, it is often necessary to make ___________________ to it.

b) The omission of data from a program can ________________ the results drastically.

c) The use of the computer in business has _________________ the workload of many people.

2. **electricity, electric, electrical, electrically**

a) A lot of ___________________ is needed to operate large computer systems.

b) Alexander Graham Bell invented the ___________________ light bulb.

c) Many students today are studying to become __________________ engineers.

3. **reduction, reduce, reduced**

a) The introduction of the computer in the workplace has _________________ the workload of many people.

b) There will probably be a great ____________________ in the consumption of oil in the next decade due to the use of computer technology.

4. **creation, create, created, creative**

a) A programmer usually has a ___________________ as well as a logical mind.

b) It takes a lot of inspiration and hard work to come up with a new ___________________ in a computer technology.

c) Computers have certainly ___________________ new opportunities for fraud.

Task 12. Read the following sentences and circle the suffixes. Underline the stem if it can be used on its own.

1. A programmer designs, writes, and tests programs for performing various tasks on a computer.
2. A systems analyst studies organizational systems and decides what action needs to be taken to maximize efficiency.
3. Laser printers are preferable to other types of printing devices because of their speed and quietness.
4. The microcomputer we have purchased does not have a FORTRAN compiler. It is programmable in BASIC only.

5. We have found that operators who have the freedom to take short breaks during the day greatly improve their performance.
6. The number of shipments will increase over the coming months.
7. We decided to computerize the entire plant to give each division more independence.
8. Spooling is a way of storing data temporarily on disk or tape until it can be processed by another part of the system.
9. Turning your office into a paperless environment may be expensive at the beginning but can produce big savings in the long run.
10. Software developers are producing increasingly sophisticated applications for a growing global market.

Now, for each word that has a suffix, indicate what part of speech the word is (e.g. noun, verb, etc.).

Unit 8. The Internet.

Text 1. The Internet.

The Internet, a global computer network which 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, known as packet switching, in which data meant for another location is broken up into little pieces, each with its own "forwarding address" had the promise of letting several users share just one communications line. Owing to this technology, if some computers on the network are knocked out (by a nuclear explosion, for example), information will just route around them. One such packet switching network already survived a war. It was the Iraq computer network which was not knocked out during the Gulf War.

Most of the Internet host computers (more than 50%) 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, and their number is growing by thousands each month worldwide.

The most popular Internet service is e-mail. The people, who have access to the Internet, use the network for sending and receiving e-mail messages. Every person connected can communicate with anyone on the Internet, or to use any public resources available in it, to publish any documents and ideas, to sell or to buy products and online goods and services. The Internet is based on the number of protocols and services. It is first of all TCP/IP protocol. HTTP protocol is used to retrieve a hypertext, graphics, audio and video and other media content. SMTP/POP3 allows to send and to receive e-mail. XML/web services give a great opportunity for developers to the powerful client-server applications.

In many developing countries the Internet may provide businessmen with a reliable alternative to the expensive and unreliable telecommunications systems of these countries. Commercial users can communicate over the Internet with the rest of the world and can do it very cheaply. When they send e-mail messages, they only have to pay for phone calls to their local service providers, not for calls across their countries or around the world. But who actually pays for sending e-mail messages over the Internet long distances, around the world? The answer is very simple: a user pays his service provider a monthly or hourly fee. A part of this fee goes towards its costs to connect to a larger service provider. And a part of the fee got by the larger provider goes to cover its cost of running a worldwide network of wires and wireless stations.

However, there are some problems in the Internet. The most acute one is security. When you send an e-mail message to somebody, it can travel through many different networks and computers. The data is constantly directed towards its destination by special computers called routers. Because of this, it is possible to get into any computer along the route, intercept and even change the data. In spite of the fact that there are many strong encoding programs available nearly all the information being sent over the Internet is transmitted without any form of encoding, i.e. “in the clear”

People use the Internet for different purposes. It can be used in business for providing access to complex databases; businessmen can conduct transactions and negotiations over the Internet. With the Internet it is possible to get information on nearly all the subjects, so it is very helpful for students in their study. You can also do research, download music, play interactive games, shop, talk in chat rooms and communicate with your friends using e-mail. The possibilities of the internet seem to be unlimited.

Vocabulary

1. to embrace millions of users – охватывать миллионы пользователей
2. to survive a nuclear war – выживать в ядерной войне
3. the shortest path available – самый короткий доступный путь
4. to stay in touch – оставаться на связи
5. route – маршрут
6. packet switching technology – технология пакетного переключения
7. owing to this technology – благодаря этой технологии

8. to be knocked out – выходить из строя
9. host computer – сервер
10. can be counted fairly accurately – может быть подсчитано довольно точно
11. to be based on the number of protocols and services – основываться на нескольких протоколах и услугах
12. to retrieve – находить, возвращать, восстанавливать
13. to provide – обеспечивать
14. reliable alternative – надежная альтернатива
15. a monthly or hourly fee – помесячная или почасовая оплата
16. to cover the cost – покрывать стоимость
17. wires and wireless stations – проводные и беспроводные станции
18. an acute problem – острая проблема
19. to be directed towards the destination – направляться к месту назначения
20. router – маршрутизатор
21. to intercept – перехватывать
22. to be transmitted without any form of encoding – передаваться без какой-либо формы кодирования
23. encoding programs – кодирующие программы
24. to provide access to complex databases – обеспечивать доступ к комплексным базам данных
25. to conduct transactions and negotiations – проводить сделки и переговоры
26. unlimited possibilities – безграничные возможности

Task 1. Read and translate the text.

Task 2. Give the Russian equivalents for the following word combinations:
1) to embrace millions of users all over the world; 2) information takes the shortest path available; 3) data is broken up into little pieces; 4) to be knocked out by a nuclear explosion; 5) host computer; 6) to use any public resources available; 7) to provide businessmen with a reliable alternative; 8) to cover the cost; 9) the data is con-

stantly directed towards its destination; 10) in spite of the fact that; 11) the information is transmitted without any form of encoding; 12) to provide access.

Task 3. Give the English equivalents for the following word combinations:
1) военный эксперимент; 2) выживать в ядерной войне; 3) технология пакетного переключения; 4) информация обойдет их; 5) может быть подсчитано довольно точно; 6) иметь доступ в Интернет; 7) платить помесячную или почасовую плату; 8) проводные и беспроводные станции; 9) перехватывать и менять данные; 10) сильные кодирующие программы; 11) использовать для различных целей; 12) проводить исследования.

Task 4. Answer the questions to the text. Extend your answers to short situations.

1. What is the Internet?
2. What was the Internet originally designed for?
3. What does the packet switching technology mean?
4. What is a host computer? Where are most of the host computers located?
5. How many users of the Internet are there in the world?
6. The most popular Internet service is buying products and online goods and services, isn't it?
7. What is the Internet based on?
8. What possibilities does the Internet give businessmen?
9. Whom do you pay for using the Internet?
10. What kinds of fees are there?
11. Are there any problems in the Internet?
12. How can the data be protected?
13. For what purposes do people use the Internet?
14. How often and for what purposes do you use the Internet?
15. Does the Internet make our life easier? Would it be more difficult to do without it?

Task 5. Translate the sentences into English.

1. Всемирная компьютерная сеть была разработана в США в 1969г. И начиналась как военный эксперимент.
2. Интернет охватывает миллионы пользователей по всему миру, и нельзя точно подсчитать, сколько людей пользуется им.
3. Интернет основывается на нескольких протоколах и услугах.
4. Популярность Интернета растет с каждым днем по всему миру.
5. Благодаря технологии пакетного переключения, любые два компьютера в Интернете смогут оставаться на связи, пока между ними существует один маршрут.
6. Интернет может использоваться для различных целей, он даёт безграничные возможности каждому человеку, подключенному к нему.
7. Такая сеть может выжить в ядерной войне, даже если некоторые компьютеры выйдут из строя.
8. Интернет позволяет вам оставаться на связи с вашими друзьями, которые находятся далеко от вас.
9. Многие люди пользуются самой популярной услугой в Интернете – электронной почтой, чтобы получать и отправлять электронные сообщения.
10. За пользование Интернетом мы платим помесячную или почасовую плату своему сервисному провайдеру.
11. Часть платы за Интернет составляет покрытие стоимости передачи проводных и беспроводных станций.
12. Безопасность – это одна из проблем, существующих в Интернете.
13. Маршрутизаторы направляют данные к месту назначения.
14. Если информация передается без какой-либо формы кодирования, она может быть перехвачена хакерами.
15. Чтобы защитить информацию, используйте кодирующие программы.
16. Интернет – это отличная возможность для бизнесменов получить доступ к базам данных.

Task 6. Give the summary of the text.

Task 7. Retell the text using conversational phrases.

Task 8. Work in pairs. Compose a dialogue. Discuss your using the Internet.

ЗАКЛЮЧЕНИЕ

Данное пособие позволит студентам сформировать навыки и умения перевода оригинальной литературы по специальности, развить навыки устной речи, ведения беседы по пройденной тематике и проблемам своей специальности, способность находить новую информацию, проводить сопоставительный анализ прочитанных текстов, умение изложить информацию в обобщенном виде, делать аннотации статей.

Эффективное практическое овладение языком в профессиональной сфере обеспечивается работой с аутентичными текстами, системой лексических, грамматических и коммуникативных упражнений. Лексические упражнения помогают овладеть специальной терминологией и проконтролировать усвоение материала. Грамматические упражнения направлены на отработку употребления суффиксов и префиксов в различных частях речи. Коммуникативные упражнения способствуют формированию у студентов навыков говорения в профессиональной среде.

APPENDIX

Conversational phrases

Agreement

I think (believe so) – думаю, что это так

I suppose so – полагаю, что это так

I quite agree with you here – я в этом с вами полностью согласен

Absolutely – конечно, точно, именно

Yes, indeed – да, в самом деле

You are right (right you are) – вы правы

Of course – конечно

Sure – конечно

Certainly – конечно

No doubt – без сомнения

It goes without saying – само собой разумеется

That's right – правильно

There's no doubt about it – в этом нет никакого сомнения

Looks like that – похоже на это

There's no denying it – это нельзя отрицать

I won't deny it – я не буду это отрицать

That's it – точно

Most likely – наверняка

Exactly – точно, конечно

I fully agree with you – я с вами полностью согласен

I can't help agreeing with you – не могу не согласиться с вами

Beyond all doubt – вне всякого сомнения

True enough – верно

By all means – обязательно, во что бы то ни стало

Disagreement

I don't agree (with you here) – я не согласен (с вами в этом)

I can't agree with you here – я не могу согласиться с вами

I don't think so – я так не думаю

I'm afraid not – боюсь, что нет

I disagree with you – я не согласен с вами

You are wrong – вы не правы

You are mistaken – вы ошибаетесь

By no means – ни в коем случае

Rubbish – чепуха

Nonsense – нонсенс

It’s far from it – это далеко не так

Just the other way round – как раз наоборот

On the contrary – наоборот

I hardly think… - не думаю, что

Absolutely wrong – совершенно неправильно

Excuse me, but… - простите, но

That’s not right – это неправильно

Of course not (certainly not) – конечно нет

Nothing of the kind – ничего подобного

I’m not (so) sure – я не уверен

I doubt it – сомневаюсь в этом

I object to it – я возражаю

I see what you mean, but… - я понимаю, что вы имеете ввиду, но…

I see your point here, but… - я понимаю вас, но…

I don’t think it’s quite right – я не думаю, что это правильно

The Scheme of Rendering the Article

1. The headline of the article

The article (we deal with) is headlined (entitled)... – статья (с которой мы имеем дело) озаглавлена…

The headline of the article (under consideration) is the following... – заголовок статьи (которую мы рассматриваем) следующий…

The title of the article is… - заголовок статьи…

2. The author of the article

The author of it is... – её автор …

The article (under consideration/ under review) is written by... – статья, которую мы рассматриваем, написана…

3. Where and when the article was published

It is published (printed) in... – она опубликована (напечатана) в...

It is a first (second) page article – это статья первой (второй страницы)

It's an editorial – это передовица

The article is published under the rubric... – статья опубликована под рубрикой

4. The main idea of the article.

The article is devoted to the problem... – статья посвящена проблеме...

The article (author) deals with the problem of... – статья (автор) имеет дело с проблемой...

The author of the article dwells on the certain idea of… - автор подробно останавливается на...

The author concentrates on... – автор концентрируется на...

The article (briefly) touches upon... – статья (коротко) затрагивает...

The purpose of the article is... (to give information to the reader) – цель статьи...

The aim of the author is to provide the reader with some material of... – цель автора – обеспечить читателя материалом...

5. The content of the article

(With my own simultaneous commentary)

The problem revealed... - раскрытая проблема...

The author starts by telling the reader about... - автор начинает с того, что говорит читателю о...

The author writes, considers, points out, etc. - автор пишет, полагает, выделяет, и т.д.

According to the problem of the article I should... - в соответствии с проблемой статьи я должен

The author reports that... - автор сообщает, что...

In conclusion... - в заключении...

The author concludes with the following... - автор делает вывод (заключает) следующим...

The author comes to the following conclusion... - автор приходит к следующему заключению...

The author sums up by telling... - автор суммирует следующим...

Summing everything up the author says… - суммируя все, автор говорит…

6. Our own opinion of the article.

(My understanding, opinion of the article)

I found the article… - я нашел статью…

important – важной

acute – острой

actual – актуальной

dull – скучной

of no value – не представляющей из себя никакой ценности

worth attention – стоящей внимания

not up to my age – не по моему возрасту

quite to the point – как раз кстати (по теме, к делу)

I express approval of… (support of…) – я выражаю одобрение… (поддержку…)

I express alarm (concern, disappointment)… - я выражаю тревогу (озабоченность, разочарование)…

I strongly protest against… - я протестую против…

Neutral Arguments

The article draws attention to the fact that... - статья обращает внимание на тот факт, что...

The paper finds a good deal to say... - в газете много говорится о…

In the author's view (opinion)... - по мнению автора

The author brings out the problem of... - автор выносит на рассмотрение проблему…

The author describes... - автор описывает…

The author points out... - автор выделяет…

The paper comments on- газета комментирует...

The article focuses its attention on (the fact that)… - статья фокусирует внимание на (том факте, что)…

As the paper puts it... - как излагает газета...

In its comment the paper reviews… - в своем комментарии газета обозревает...

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