

I. Computers

- 1) Computer is an electronic device that performs calculations and processes information.
- 2) Data processing systems consist of a combination of programs and physical equipment.
 - 3) The hardware includes system unit, input and output units such as printer, display, mouse, keyboard.
- 4) The input unit is the part of the computer that takes in the information.
- 5) The instructions or data are typed on the keyboard and display shows what has been typed.
- 6) Output units record information from the computer.
- 7) Input and output devices are called peripherals.
- 8) The system unit includes storage unit, central processing unit (CPU), hard disk, floppy disk (diskette).
- 9) The central processing unit is the controlling center of data processing system.
- 10) A storage unit, also called a memory, receives information from the input device and holds it until it is necessary.
- 11) The control system directs and coordinates the computer system.

History of computers

1. The very first calculating device was the ten fingers of a man's hands.
2. Then the abacus was invented.
 3. During the 17th - 18th centuries many people tried to find easy ways for calculating.
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 4. Among them there was Napier who devised a mechanical way of multiplying and dividing.
5. Henry Briggs used the Napier's ideas to produce logarithm tables.
6. The first real calculating machine appeared in 1820, which could save a great deal of time and reduces the possibility of making mistakes.
7. In 1830 Charles Babbage designed a machine called "The Analytical Engine" and showed it at the Paris exhibition in 1855.
8. By this machine he tried to cut the human being altogether except for providing the machine with necessary information.
9. In 1930 the first analog computer was built by Vannevar Bush, the American.
10. This device was used in World War II to help aim guns.
11. The digital computer, Mark 1, was completed in 1944.
12. Another important advancement in computers came in 1947 when John von Neumann developed the idea of keeping instructions for the computer inside the computer's memory.

The CPU

1. The main function of the central processing unit (CPU) is to control and coordinate all the activities of the computer elements.
2. The basic components of the computer system operate only in response to commands from the control unit.
3. The control unit controls the flow of information between main storage and the arithmetic-logical unit.
4. Any control unit has the following components:
5. A counter that selects instruction one at a time from memory.
6. A register that temporarily holds the instruction read from memory while it is being executed.
7. A clock that produces marks at regular intervals.
8. Arithmetic-logical unit performs binary arithmetic, logical and some special functions.
9. Typical modern computers can perform as many as one hundred thousand additions of pairs of thirty-two-bit binary numbers within a second.

Memory

1. One of the most important parts of a computer is capability of storing information in a place called memory.
2. Memory is of different kinds such as read-only memory (ROM) and random-access memory (RAM) and others.
3. Read-only-memory cannot be altered.
4. Random-access memory usually in the form of dynamic RAM can be changed, but it loses all data if power stops.
5. Data can also be stored on secondary memory devices such as removable compact discs (CDs).
6. Small removable floppy discs or floppies are also used to store data.
7. The new technology will make CDs, laser discs and CD-ROMs outdated by the end of a decade.

Computer viruses

1. Using modems users can face with a set of troubles: loss of the data, system hang and others.
2. One of the reasons of these troubles could be viruses.
3. Such viruses are similar to biological ones and are multiplied.
4. From old times it was known that to any poison early or late it is possible to find antidote.
5. For the computer it is a program called anti-virus.

6. The anti-virus filters are resident programs.
7. The program alerts the user on all attempts of any program to be recorded on the disc.
The best-known program-detectors now are Aidstest, Doctor Web and Microsoft Antivirus.
8. Such programs need regularly to be renovated to find out new kinds of viruses

Internet

1. The Internet is a world-wide collection of networks, gateways, servers and computers using a common set of telecommunications protocols to link them together.
2. It provides access to information and resources all over the world without leaving your home.
3. The origin of the Internet is US Department of Defense project called Advanced Research Projects Agency Network (APRANET).
4. Over the past few years the primary uses of the Internet have shifted from research-based to commerce-based.
5. Today the Internet is growing tremendously.
6. It is best-known for the services it provides such as:
World-Wide-Web
File-Transfer Protocol servers
Electronic mail, etc.
7. WWW is multimedia service that contains a vast storehouse of hypertext documents written using the Hypertext Markup language.
8. It is a method for presenting text, images, sounds and videos that are linked together.
9. There are tools and protocols that help you to explore the Internet.
10. These tools help you to locate and transport resources between computers.

Kinds of computers

1. Computers are frequently divided into two groups according to the jobs they perform.
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2. They are general-purpose computers and special-purpose ones.

3. A general-purpose computer can handle many kinds of jobs and is not restricted to any particular user.
4. A special-purpose computer is designed to do one specific job for a particular user.
5. Computers can also be classified as digital, analog and hybrid ones.
6. Digital computers solve problems and do other tasks by counting, comparing and rearranging digits in the arithmetic-logical unit.
7. All the data are represented by digits and use binary arithmetic.
8. Analog computers work directly with physical quantities such as weight, voltage or speed.
9. These computers solve problems by measuring the quantity in terms of other quantities?
10. On some cases the data are displayed as electrical signals or an instrument called an oscilloscope.

Languages

1. There are different languages in programming which are divided into low-level and high-level ones.
2. We know many languages for programming as COBOL, ALGOL, BASIC, ADA, C, C++ and others.
3. C stands almost alone in that it was created, influenced and field-tested by real working programmers.
4. C gives the programmer what he wants: few restrictions, block structures, stand-alone functions and etc.
5. Now C is the most popular language among top-flight professionals.
6. C can be used instead of assembly language because the latter uses a symbolic representation of the actual binary code.
7. Initially C was used for system programming.
8. Later many programmers began to use it widely for tasks because of its portability and efficiency.

9. C offers the speed of assembly language and few of the restrictions of Pasca and Module 2 languages. . . .

10. At last, C allows programmers to manage large projects easily and minimiz duplication of efforts.