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Competitive Exams: Classification of Computers

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Computers come in a wide variety of sizes and shapes, ranging from tiny hand-held devices to some that are several feet in height and diameter. Over the years, computers have become smaller and smaller, but they have also become increasingly powerful. Computers can be divided into four categories: Supercomputers, mainframes, minicomputers, and microcomputers. Generally, these four types differ in price, amount of memory, speed, and processing capabilities.

Supercomputers are the fastest, most powerful, and most expensive computers available today. To be considered a supercomputer, a machine must be capable of performing at least 10 million arithmetic operations per second. The Cray-2 computer, developed by Cray Research, Inc. is a supercomputer system that is used mainly in the scientific areas of weather forecasting, nuclear weapons developments, and energy supply and conservation.

For most business applications, the extremely high-speed processing capabilities of a supercomputer are not necessary; a mainframe is adequate.

Minicomputers manufactured today are more powerful than mainframes manufactured in the recent past. In general, minicomputers are lower priced, have smaller memories, and are less powerful than mainframes. They are also generally easier to install than mainframes. Minicomputers are often used in business and schools that do not require the capabilities of a mainframe.

The microcomputer is currently the smallest and least costly type of computer. This is the type of computer often found in small business and in homes and classrooms. Because of the microcomputer's low cost and the flexibility of available software package (commercially written programs that perform specific tasks such as word processing), its popularity has risen tremendously in the past few years. The primary storage unit of a microcomputer is usually smaller than that of the other types of computers. Commonly used auxiliary storage devices on microcomputers are floppy disk drives and hard disk drives. When using a floppy disk drive, the diskette with the needed data must be inserted into the drive. Hard disks are permanently installed in the computer and can store larger quantities of data; commonly in the 20 to 100 megabyte (millions of bytes) range. The computer can access data stored on a hard disk more quickly than that stored on a floppy disk.

