The computer generations are stages in the evolution of electronic circuitry, hardware, programming languages and other technological developments. Computers have gone through four generations. Each of these generations is based on the type of technology used during this period.

The first generation mainframe computers (from 1940s till 1958) were very large in size and used thousands of vacuum tubes. CPU speed was measured thousand instructions per second. Magnetic drum and magnetic core were used for memory and storage. Their role in business was limited by three factors – their size, the heat they generated, and their reliability problems.

The second-generation minicomputers began in 1959. The use of transistors instead of vacuum tubes made these computers smaller, more powerful, more reliable and use less electricity. Their speed was about 200,000 instructions per second. I/O devices were keyboards and video displays. Memory and storage devices were magnetic tape and large disk drive.

The third generation of computers started in 1964. They used integrated circuits instead of transistors. Computers became faster (speed increased to 1 million instructions per second) and even more reliable. The family consisted of six different versions of the same computer, but programs written for one of them could also be used on the others. A company could buy one of the less costly computers in the family and later upgrade it to a more powerful computer and still continue to use the same programs.

Fourth generation computers (1971 to today) are based on large-scale integration (LSI) and very large-scale integration (VLSI). A product of this micro-miniaturization of electronic circuitry was the microprocessor developed in 1971. A microprocessor made it possible to introduce a new concept of computer as a 'personal' device for one user.

The mouse was introduced as a new I/O device. Alan Shugart, an IBM engineer, invented the floppy disk and the Winchester hard disk for PCs. Programming languages were more human-like and the 1990s saw the development of multimedia applications using sound and video devices.