**Summary:**

A computer processor can read and write items according to some instructions given to it by the user. The instructions are known as a computer program. Over the years, computers have evolved over 6 generations. The zero engine were mechanical Calculating Machines. First gen computers used vacuum tubes. The second-generation computer used Transistors hence called transistorized computers. The third generation used Integrated circuits for eg: IBM 360. The fourth generation of computers are called VLSI computers. These computers enabled the idea of microprocessors. Intel 4004 was the first of these kinds of computers. Currently we are in the fifth generation of computers. These computers are based on processing hardware and AI. Desktop and Laptop computers are some of their examples.

Computer Architecture is of two types Von Neuman Architecture and Harvard Architecture. The Von Neuman architecture is used on stored-program computers. These computers have a CPU, main memory system and an I/O system. This architecture is used on PCs, Macs and even android phones etc. On the other hand Harvard architecture is used when data is present in different memory blocks. In this architecture, data is accessed by one memory location and instruction can be accessed by a different location.

Computer level Hierarchy consists of 7 levels. The highest level (level6) is the user level. After that there is level 5 which is called the High-Level Language Level. On this level programming languages such as C, Java etc are written. Level 4 is called Assembly Language Level. It acts upon the assembly language used in level 5. Level 3 is known as system software level. This level controls executing processes on the system. Assembly language instructions are passed through Level 3 without modification. Level 2 (Machine Level) is also known as the instruction set architecture. It contains instructions that are particular to the architecture of the machine. Programs at this level need to compilers or interpreters. Level 1 is where control unit decodes and executes instructions and moves data through the system. It can be microprogrammed or hardware programmed. The last level is level 0 where we find digital circuits. They consist of gates and wires. They implement mathematical logic on all other levels.

The basic system architectrue comprises of the following elements. The CPU is the most important around which everything is centered. It is the computing part of the computer. It is capable of manipulating data etc. Memory is what computer used to hold and store data for CPUs. Some of the most common types of memory are RAM (Random Access memory) and ROM (Read-only memory. RAM is volatile form of memory and temporarily hold data for the CPU. While, ROM is non-volatile memory. Some common types of ROM are EROM, PROM and EEPROM. The processor uses input output devices to communicate with the external world. These input output devices are also known as peripherals such as keyboards, mice, modems etc.