1. Definition of microprocessor.

Ans:  microprocessor is a computer processor which incorporates the functions of a [computer](https://en.wikipedia.org/wiki/Computer)'s [central processing unit](https://en.wikipedia.org/wiki/Central_processing_unit) (CPU) on a single [integrated circuit](https://en.wikipedia.org/wiki/Integrated_circuit) (IC),or at most a few integrated circuits. The microprocessor is a multipurpose, clock driven, [register](https://en.wikipedia.org/wiki/Processor_register) based, [programmable](https://en.wikipedia.org/wiki/Computer_program) electronic device which accepts [digital](https://en.wikipedia.org/wiki/Digital_data) or binary data as input, processes it according to instructions stored in its memory, and provides results as output. Microprocessors contain both combinational logic and [sequential digital logic](https://en.wikipedia.org/wiki/Sequential_logic). Microprocessors operate on numbers and symbols represented in the [binary numeral system](https://en.wikipedia.org/wiki/Binary_numeral_system).

In the other word,

A microprocessor, sometimes called a logic chip, is a computer [processor](http://searchcio-midmarket.techtarget.com/definition/processor) on a [microchip](http://searchcio-midmarket.techtarget.com/definition/microchip).

The microprocessor contains all, or most of, the central processing unit ([CPU](http://searchcio-midmarket.techtarget.com/definition/CPU)) functions and is the "engine" that goes into motion when we turn our computer on. It is designed to perform arithmetic and logic operations that make use of small number-holding areas called registers. Typical microprocessor operations include adding, subtracting, comparing two numbers, and fetching numbers from one area to another. These operations are the result of a set of [instruction](http://searchcio-midmarket.techtarget.com/definition/instruction)s that is part of the microprocessor design.

When your computer is turned on, the microprocessor gets the first instruction from the basic input/output system ([BIOS](http://whatis.techtarget.com/definition/BIOS-basic-input-output-system)) that comes with the computer as part of its [memory](http://searchmobilecomputing.techtarget.com/definition/memory). After that, either the BIOS, or the operating system that BIOS loads into computer memory, or an application program is "driving" the microprocessor, giving it instructions to perform.

1. History of microprocessor.

Ans: The first [microprocessor](http://www.worldofcomputing.net/processor/microprocessor.html) was introduced in 1971 by Intel Corp. It was named Intel 4004 as it was a 4 bit processor. It was a processor on a single chip. It could perform simple arithmetic and logic operations such as addition, subtraction, boolean AND and boolean OR. It had a control unit capable of performing control functions like fetching an instruction from memory, decoding it, and generating control pulses to execute it. It was able to operate on 4 bits of data at a time.This first [microprocessor](http://www.worldofcomputing.net/processor/microprocessor.html) was quite a success in industry. Soon other microprocessors were also introduced. Intel introduced the enhanced version of 4004, the 4040. Some other 4 bit processors are International’s PPS4 and Thoshiba’s T3472.

8-bit Microprocessors

The first 8 bit [microprocessor](http://www.worldofcomputing.net/processor/microprocessor.html) which could perform arithmetic and logic operations on 8 bit words was introduced in 1973 again by Intel. This was Intel 8008 and was later followed by an improved version, Intel 8088. Some other 8 bit processors are Zilog-80 and Motorola M6800.

16-bit Microprocessors

The 8-bit processors were followed by 16 bit processors. They are Intel 8086 and 80286.

32-bit Microprocessors

The 32 bit microprocessors were introduced by several companies but the most popular one is Intel 80386.

Pentium Series

Instead of 80586, Intel came out with a new processor namely Pentium processor. Its performance is closer to RISC performance. Pentium was followed by Pentium Pro CPU. Pentium Pro allows allow multiple CPUs in a single system in order to archive multiprocessing. The MMX extension was added to Pentium Pro and the result was Pentiuum II. The low cost version of Pentium II is celeron.

The Pentium III provided high performance floating point operations for certain types of computations by using the SIMD extensions to the instruction set. This new instruction makes the Pentium III faster than high-end RISC CPUs.

Interestingly Pentium IV could not execute code faster than the Pentium III when running at the same clock frequency. So Pentium IV had to speed up by executing at a much higher clock frequency.