

Memory.

Our aim is to see how we can use the computer to solve some problems. For that purpose, it is useful to know a little more about main memory. From the user's point of view, main memory can be thought of as a collection of compartments (or locations) as shown in fig. (i) Each compartment is assigned a number called its address (starting with zero as shown in the fig. (ii)). The total number of compartments gives us the size of the memory.

0	1	2
3	4	

fig. (i) Main memory as a collection of compartments (locations)

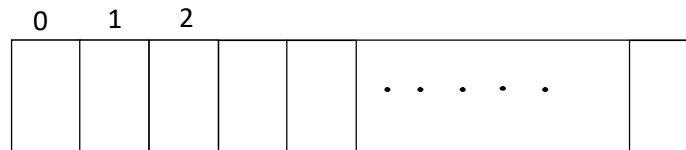


fig. (ii) Bits in a memory location

Each compartment of memory (as well as a register in ALU) consists of sub-compartments fig. (ii). Each sub-compartment can store either a zero or a 1. Any information to be stored inside a computer is put using zeros and 1's. The digits 0 and 1 are called binary digits (bits in short). The acronym bit is formed by taking the letter b from the word 'binary' and the letters i, t from the word 'digit'. Similarly, we have the acronym dit for decimal digit, hit for hexadecimal digit etc. The number system that uses only two digits is called binary number system. Computers use binary number system for computation.