**Arrays**

A simple variable can store a single value only. However in many applications, we need to store multiple values for e.g. to store the marks of say 50 students OR the salaries of say 500 employees, etc. In such cases, declaring too many variables is a tedious procedure. In such cases, we need to use arrays.

Definition – An array is a collection of values with similar datatype only. These values are also called as “elements” of array and can be referred using their index values i.e. their position in array, the base of which is 0.

Syntax to declare an array

datatype array\_name[SIZE]; // SIZE has to be a constant

For eg to store the marks of 50 students, if we declare individual vars, it is very tedious.

int m1, m2, m3, m4, ……;

// accept data for marks of students

scanf(“%d”,&m1);

scanf(“%d”,&m2);

scanf(“%d”,&m3);

……

total = m1 + m2 + m3 + ………;

int marks[50]; // This declaration will reserve 50 continuous memory locations

0 1 2 3 ….. 49

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600 604 608 612…. (As int requires 4 bytes of memory on a 32 bit compiler)

marks[50] 🡺

// to accept the marks of 50 students

for (i=0;i<50;i++)

scanf(“%d”,&marks[i]); // & marks of i

The last element is @ position SIZE-1