SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore – 641 107

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Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

COURSE NAME : 23ITT101- PROBLEM SOLVING & C PROGRAMMING

I YEAR /I SEMESTER

Unit 3- C-ARRAYS AND STRINGS

Topic : Arrays – Characteristics, Initialization – Declaration

Array

It is a collection of elements of same data type, that are referenced by a common name

Types

- ➤ One-Dimensional array
- ➤ Two-Dimensional array
- ➤ Multi-Dimensional array

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One-Dimensional array
Array Declaration

Syntax:

datatype array_name[size];

Example: *int x[3];*

X

X[0]
X[1]
X[2]

3
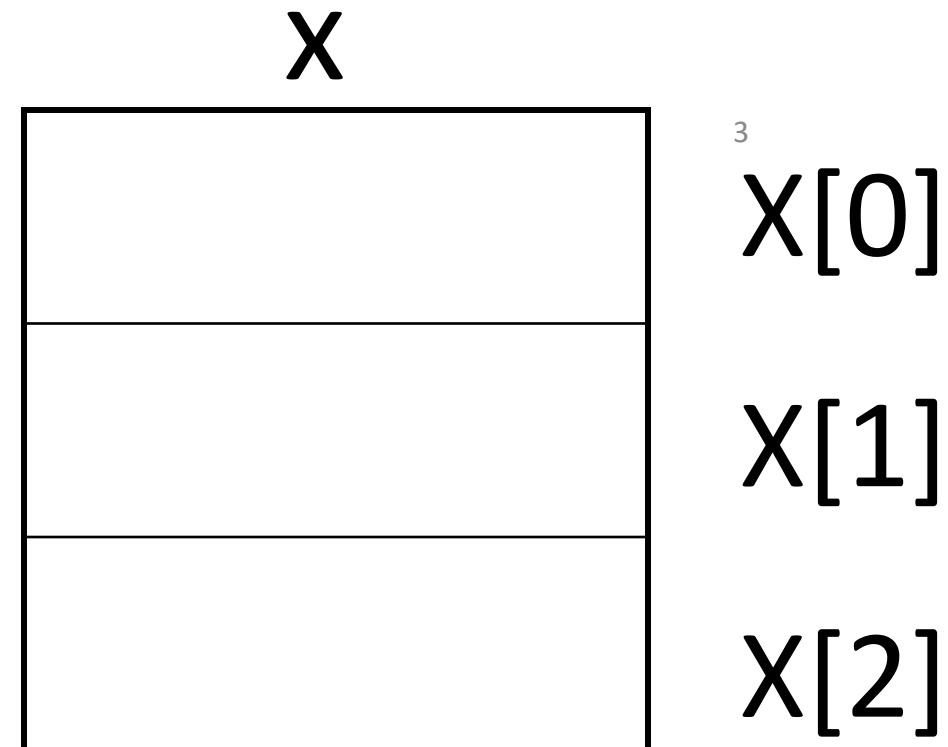
Array initialization

Syntax:

data_type array_name[size]={variables};
Example: *int x[3]={5,3,7};*

X

5	X[0]
3	X[1]
7	X[2]
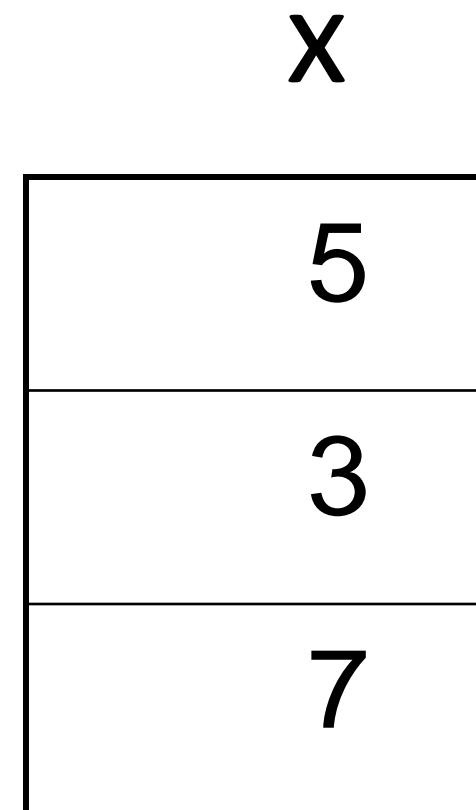
```
int a[5];
a[0]=10;
a[1]=20;
a[2]=30;
a[3]=40;
a[4]=50;
```

```
Int a[5]={10,20,30,40,50};
```

```
char a[7]="welcome";
```

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//program to set values of array and display it

```c
#include<stdio.h>
#include<conio.h>
void main()
{
    int a[5],i;
    clrscr();
    a[0]=10;
    a[1]=20;
    a[2]=30;
    a[3]=40;
    a[4]=50;
    for(i=0;i<5;i++)
    {
        printf("\nThe value in a[%d] is %d",i,a[i]);
    }
    getch();
}
```

OUTPUT

The value in a[0] is 10
The value in a[1] is 20
The value in a[2] is 30
The value in a[3] is 40
The value in a[4] is 50

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//program to get values of array from users and display it

```c
#include<stdio.h>
#include<conio.h>
void main()
{
    int a[5],i;
    clrscr();
  printf("Enter five values : \n");
  for(i=0;i<5;i++)
    {
        scanf("%d",&a[i]);
    }
  for(i=0;i<5;i++)
  {
        printf("\nThe value in a[%d] is %d",i,a[i]);
  }
  getch();
}
```

OUTPUT

Enter five values :
10
20
30
40
50
The value in a[0] is 10
The value in a[1] is 20
The value in a[2] is 30
The value in a[3] is 40
The value in a[4] is 50

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Thank You