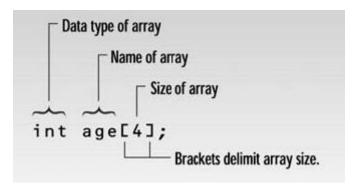# Arrays

Continuous cell in the memory.

One dimensional Arrays:

1)Defining Arrays:

  int x [5];

5	10	20	15	40

 x[0] x[1]   x[2] x[3]   x[4]

x[0]=5

x[1]=10

x[2]= 20

x[3]= 15

x[4]= 40

==

2) Initializing Arrays:

 int x[5]= {5, 10, 20, 15, 40};

⟹ x[0]=5 ,   x[2]= 20 ,   x[5] not exist

int x[10]= {5, 10, 20, 15, 40, ….};

x[0]=5 ,   x[2]= 20 ,   x[5]=0 , x[10] not exist

3) Accessing Array Elements:

int x[5];

for (i = 0; i <5 ; i++)

cin>>x[i];

for (i = 0; i <5 ; i++)

cout<< x[i];

==

Write a program that declares the following array:

1	1	2	3	5	8	13	21	34	55

```
#include<iostream.h>
main()
{
int i , A[10] ={1, 1};
for (i = 0; i<10;  i++)
A[i+2] = A[i+1] + A[i];
  for (i=0;  i<10;  i++)
  cout<<" " << A[i];
  cout<<endl;
    }
```

==

Write a program to create an array of 5 elements, take the values of the elements from the user, sort these elements.

```cpp
#include<iostream.h>
main ( )
{
float a[10], x;

int i, j;

// read the element of the array

cout<<"Enter the element of the array";

for (i=0; i<5 ;i++)

cin >> a[i];

for ( i= 0; I < 4; i++)

for ( j=0 ; j <4-i; j++)

if ( a[j] > a[j+1])

{ x = a[j] ;

a[j]=a[j+1];

a[j+1]=x;

}
// Print the new array

cout<<" the array after sorting is"<<endl;

for(i=0;i<5;i++)

   cout<< a[i]<<" ";

   }
```

Sheet No.5

Due Date: One week after your lab session- Complete by yourself.

Exercise 1:

Write a program to create an array of 5 elements, take the values of the elements from the user, calculate, and print their average value .

==

Exercise 2:

Write a program to create an array of 10 elements, and then print the largest element in this array.

==

Exercise 3:

Write a program to create an array of 10 elements, and then print the smallest element in this array.

==

Exercise 4:

Write a program to read two arrays (two-dimensional) and then add them.

==

Exercise 5:

Write a program to read two arrays (two-dimensional) and then multiply them.

Exercise 6:

Write a program that declares the following array:

a)

1	0	0	0	0
0	1	0	0	0
0	0	1	0	0
0	0	0	1	0
0	0	0	0	1

b)

A	B	B	B	B
B	A	B	B	B
B	B	A	B	B
B	B	B	A	B
B	B	B	B	A

c)

A				
	B			
		C		
			D	
				E