

Arrays in c++

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Array can be any data types:

Int A[5] = { 4,5,6,7,8}

Float B[5] = {3.5,4.5,3.6,8.6,7.6}

Char m[5] = { ‘A’,’B’ , ‘C’ , ‘D’ , ‘E’ }

If we not decide the size of an array then it will automatically

Take the size.

* If we do not initialise the size of the array then it will

Take the garbage values in it.

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Array using for loop –

For(i=0; i<n; i++)

{

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}

Here i will take the indices of the array.

It will depend upon the size of array.

Now for each loop—

* It is not depends upon the size of array.
* X will gate the copy of the value of the array.

For(int x:A) // x:A means for each x in A..

{

Cout<<x;

}

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Sum of all the elements of the array:-

int main ()

{

    int a[7]={4,8,6,9,5,2,7};

    int n=7, sum=0;

    for(int i=0;i<7; i++)

    {

        sum=sum+ a[i];

    }

    cout<<"Sum is "<<sum<< endl;

    return 0;

}

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Finding maximum element of an array:-

#include<iostream>

using namespace std;

int main()

{

    int a[7]={4,8,6,9,5,2,7};

    int n=7,max;

    max=a[0];

    for(int i=0;i<7;i++)

    {

        if(a[i]>max)

        {

            max=a[i];

        }

    }

    cout<<"Maximum number of array = "<<max;

    return 0;

}

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Linear search:-

Searching:-

Searching is the process of finding the location of

of an element.

Exp:

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 6 | 11 | 25 | 8 | 15 | 7 | 12 | 20 | 9 | 14 |

0 1 2 3 4 5 6 7 8 9

#include<iostream>

using namespace std;

int main()

{

    int a[10],key;

    cout<<"Enter all the elements of the array:-"<<endl;

    for(int i=0;i<10;i++)

    {

        cin>>a[i];

    }

    cout<<"Enter key:-"<<endl;

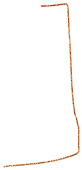
    cin>>key;

    for(int i=0;i<=9;i++)

    {

Linear Search

[Cite your source here.]

        if(a[i]==key)

        {

            cout<<"found at index no. "<<i;

            return 0;

        }

    }

    cout<<"Key not found";

    return 0;

}

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Binary search:-

Element of the array should be sorted.

NOTE:-

* In linear search searching takes place linearly while
* Binary search always check middle element dividing the array

into half.

Time complexity:-

Linear search: o(n)

Binary search: o(logn)

Conclusion:-

Binary search is faster because it takes logn times.

Nested loop:-

It is used for accessing the elements of multidimensions

Array. That is 2 dimensional array, or matrices..

Nested loop:-