

Binary Search

```
#include <iostream>
#include<stdlib.h>

using namespace std;

int n, i, a[10], number, lower=0, middle, higher, flag=0;

int main()
{
    cout<<"Enter total numbers in the list....";
    cin>>n;

    cout<<"Enter the numbers in ascending order... ";

    for(i=0;i<n;i++)
        cin>>a[i];

    cout<<"Enter the number to be searched...";
    cin>>number;

    while(lower<=higher)
    {
        higher=n-1;
        middle=(lower+higher)/2;

        if(number==a[middle])
        {
            flag=1;
            break;
        }

        if(number<a[middle])
            higher=middle-1;
        else
            lower=middle+ 1;
    }

    if(flag==1)
        cout<<"Number is found";
    else
        cout<<"Number is not found";
```

```
return(0);  
}
```

Output::

Enter total numbers in the list....

5

Enter the numbers in ascending order... 1

2

3

4

5

Enter the number to be searched...3

Number is found

Enter total numbers in the list....5

Enter the numbers in ascending order... 1

2

3

4

5

Enter the number to be searched...6

Number is not found