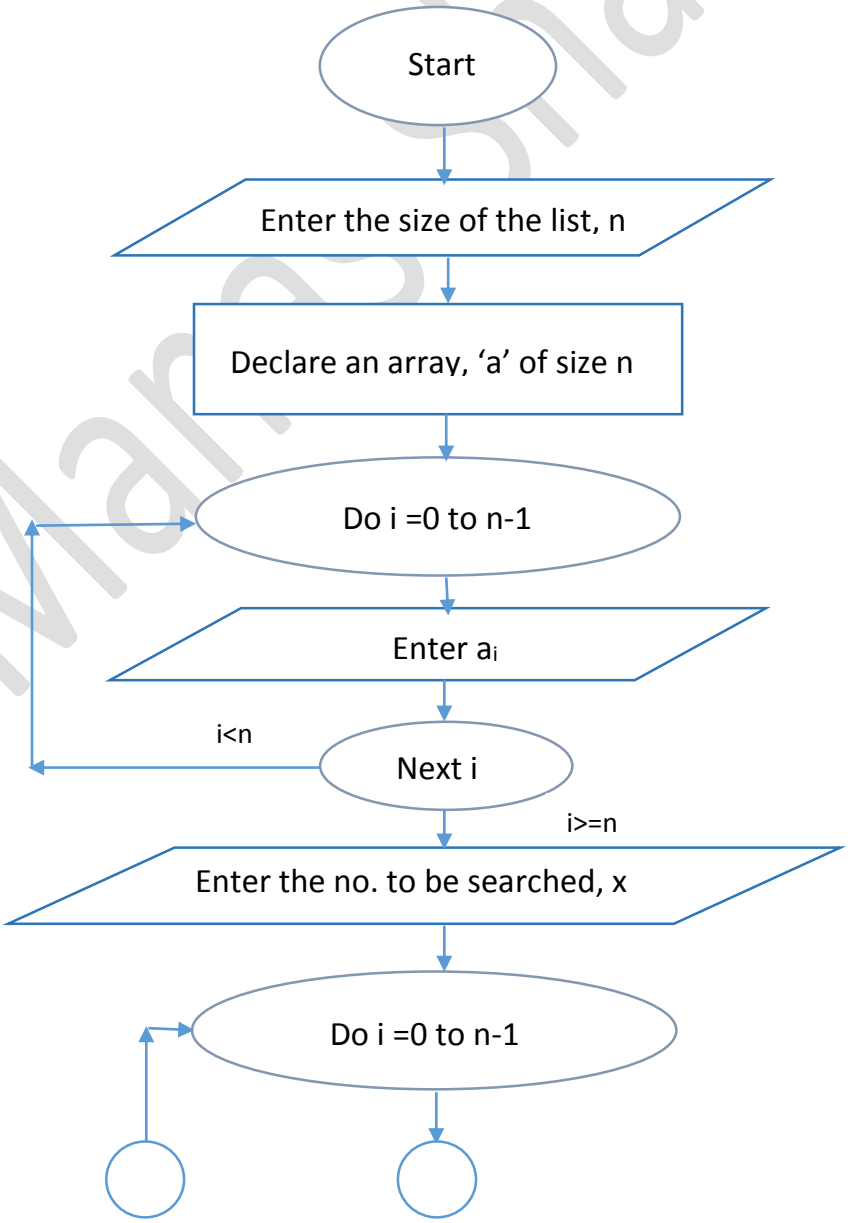
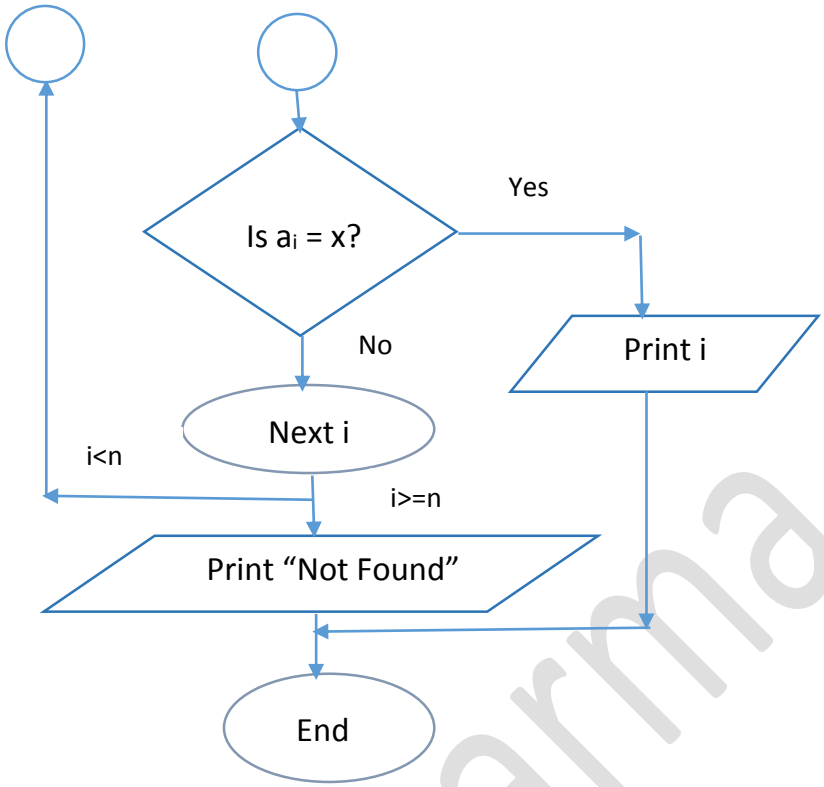
Aim: To locate a number in a given list.

Algorithm:

1. Enter the size of the list, say n.
2. Declare an array, 'a' of given size.
3. Begin For i=0 to n-1
   Input a_i , i.e. the elements of the list.
   End for.
4. Enter the no. to be searched in the list, say x.
5. Begin For i=0 to n-1
   IF a_i = x
   Print I (position)
   End Program
   End For
6. Print "Not found".
7. End

Flow Chart:





Program:

```
//To locate a number in a list
#include <iostream>
using namespace std;
int main()
{
   int i,n;
   double x;
   cout<<"Enter the size of the list"<<endl;
   cin>>n;                  //Input the size of the list
   double a[n];             //declare an array of the size entered by the user
   cout<<"Enter the elements of the list\n";
   for (i=0;i<n;i++)        //loop to input the elements of the list
   {
   cin>>a[i];
   }
   cout<<"Which no. do you wish to find?\n";
   cin>>x;                  //Input the no. to be searched
   for(i=0;i<n;i++)         //loop to search the no.
   {
      if (a[i]==x)          //compare each element with the no. to be searched
      {
      cout<<"The no. is at "<<i+1<<"th position in the list.\n";//display the position
      break;                        //break the loop
      }
      if(i==n-1)
      cout<<"Sorry, the no. can't be found\n";
   }
   return 0;                //end program
}
```

Output:

```
Enter the elements of the list
1
2
3
4
5
6
7
Which no. do you wish to find?
5
The no. is at 5th position in the list.
```

```
Enter the size of the list
5
Enter the elements of the list
1
2
3
4
5
Which no. do you wish to find?
6
Sorry, the no. can't be found
manas@manas-VirtualBox:~/NA$
```