```c
#include<stdio.h>

int main()
{
    int a[20],i,x,n;
    printf("How many elements?");
    scanf("%d",&n);

    printf("Enter array elements:n");
    for(i=0;i<n;++i)
        scanf("%d",&a[i]);

    printf("nEnter element to search:");
    scanf("%d",&x);

    for(i=0;i<n;++i)
        if(a[i]==x)
            break;

    if(i<n)
        printf("Element found at index %d",i);
    else
        printf("Element not found");

    return 0;
}
```

```
rishabh@DESKTOP-AUG0508U:/media/rishabh/Backup Plus/Vlabs/DS Labs$ mkdir "Lab Aug 19 2020"
rishabh@DESKTOP-AUG0508U:/media/rishabh/Backup Plus/Vlabs/DS Labs$ ls
'Lab Aug 12 2020'  'Lab Aug 19 2020'
rishabh@DESKTOP-AUG0508U:/media/rishabh/Backup Plus/Vlabs/DS Labs$ cd Lab\ Aug\ 19\ 2020/
rishabh@DESKTOP-AUG0508U:/media/rishabh/Backup Plus/Vlabs/DS Labs/Lab Aug 19 2020$ nano LinearSearch.c
rishabh@DESKTOP-AUG0508U:/media/rishabh/Backup Plus/Vlabs/DS Labs/Lab Aug 19 2020$ gcc LinearSearch.c
rishabh@DESKTOP-AUG0508U:/media/rishabh/Backup Plus/Vlabs/DS Labs/Lab Aug 19 2020$ ./a.out
How many elements?5
Enter array elements:n12
12
12
10
12
nEnter element to search:10
Element found at index 3rishabh@DESKTOP-AUG0508U:/media/rishabh/Backup Plus/Vlabs/DS Labs/Lab Aug 19 2020$ ./a.out
How many elements?6
Enter array elements:n12
98
6
5
45
9
nEnter element to search:5
Element found at index 3rishabh@DESKTOP-AUG0508U:/media/rishabh/Backup Plus/Vlabs/DS Labs/Lab Aug 19 2020$
```

```c
#include <stdio.h>

void main()
{
  int c, first, last, middle, n, search, array[100];

  printf("Enter number of elements\n");
  scanf("%d", &n);

  printf("Enter %d integers\n", n);

  for (c = 0; c < n; c++)
    scanf("%d", &array[c]);

  printf("Enter value to find\n");
  scanf("%d", &search);

  first = 0;
  last = n - 1;
  middle = (first+last)/2;

  while (first <= last) {
    if (array[middle] < search)
      first = middle + 1;
    else if (array[middle] == search) {
      printf("%d found at location %d.\n", search, middle+1);
      break;
    }
    else
      last = middle - 1;

    middle = (first + last)/2;
  }
  if (first > last)
    printf("Not found! %d isn't present in the list.\n", search);
}
```

```
rishabh@DESKTOP-AUG0508U:/media/rishabh/Backup Plus/Vlabs/DS Labs$ mkdir "Lab Aug 19 2020"
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'Lab Aug 12 2020'   'Lab Aug 19 2020'
rishabh@DESKTOP-AUG0508U:/media/rishabh/Backup Plus/Vlabs/DS Labs$ cd Lab\ Aug\ 19\ 2020/
rishabh@DESKTOP-AUG0508U:/media/rishabh/Backup Plus/Vlabs/DS Labs/Lab Aug 19 2020$ nano LinearSearch.c
rishabh@DESKTOP-AUG0508U:/media/rishabh/Backup Plus/Vlabs/DS Labs/Lab Aug 19 2020$ gcc LinearSearch.c
rishabh@DESKTOP-AUG0508U:/media/rishabh/Backup Plus/Vlabs/DS Labs/Lab Aug 19 2020$ ./a.out
How many elements?5
Enter array elements:n12
12
12
10
12
nEnter element to search:10
Element found at index 3rishabh@DESKTOP-AUG0508U:/media/rishabh/Backup Plus/Vlabs/DS Labs/Lab Aug 19 2020$ ./a.out
How many elements?6
Enter array elements:n12
98
6
5
45
9
nEnter element to search:5
Element found at index 3rishabh@DESKTOP-AUG0508U:/media/rishabh/Backup Plus/Vlabs/DS Labs/Lab Aug 19 2020$ nano BinarySearch.c
rishabh@DESKTOP-AUG0508U:/media/rishabh/Backup Plus/Vlabs/DS Labs/Lab Aug 19 2020$ gcc BinarySearch.c
rishabh@DESKTOP-AUG0508U:/media/rishabh/Backup Plus/Vlabs/DS Labs/Lab Aug 19 2020$ ./a.out
Enter number of elements
6
Enter 6 integers
2
4
6
8
7
09
Enter value to find
6
6 found at location 3.
rishabh@DESKTOP-AUG0508U:/media/rishabh/Backup Plus/Vlabs/DS Labs/Lab Aug 19 2020$
```