
Program to implement binary search

Algorithm

- 1) Start
- 2) Read the elements in ascending order
- 3) for i in range(0,n) repeat the following steps:
 - a) read the input and append to num_list []
- 4) Print the list
- 5) Read the element to be searched
- 6) Low = 0
- 7) High=n-1
- 8) mid=(low+high)//2
- 9) while low <= high repeat the following steps:
 - a) if num_list[mid]==element then print element is found at location mid+1
 - b) else if num_list[mid]<element then low=mid+1
 - c) else high=mid-1
 - d) mid=(low+high)//2
- 10) if low>high then print element not found
- 11) Stop

Program

```
n=int(input("Enter the number of elements in the list")) num_list=[]
print("Enter the elements in ascending order")
for i in range(0,n):
    num_list.append(int(input()))
    print(num_list)
element=int(input("Enter the element to be searched"))
low =0
high = n -1
mid= (low+high)//2
while low <= high:
    if num_list[mid]==element:
```

```
        print("Element:",element, "Found at location", mid+1)
        break
    elif num_list[mid]<element:
        low=mid+1
    else:
        high=mid-1
        mid=(low + high)//2
if(low>high):
    print("Element:", element, "not found")
```

Output

Enter the number of elements in the list : 6

Enter the elements in ascending order

10

20

30

40

50

60

[10, 20, 30, 40, 50, 60]

Enter the element to be

searched 50 Element 50

found at location 5