```
def Linsearch(arr,x):
    for i in range(len(arr)):
        if arr[i] == x:
            return i
            return -1
def Sentsearch(arr,x):
    l = len(arr)

    arr.append(x)

    i = 0

    while(arr[i]!=x):

        i = i+1

    if(i!=l):

        return i

    else:

        return -1



#Driver Code

print("\nHow many Students are there?")

n = int(input())
```

```
array = []
i=0
for i in range(n):
   print("\n Enter roll number: ")
item = int(input())
array.append(item)
print("The Roll Numbers of Students are ...\n")
print(array)
while(True):
   print("Main Menu")
print("\n 1. Linear Search")

print("\n 2. Sentinel Search")

print("\n 3. Exit")

print("\n Enter your choice: ")

choice = int(input())

if(choice == 1):

   print("\n Enter the roll number to search if student has attended the training program or not? ")

   key = int(input())

   location = Linsearch(array,key)

   if(location !=-1):

      print("Yes, the student attended the training program!!!")
```

```
    else:
        print("No, the student has not attended the training program!!!")
elif(choice == 2):
    print("\n Enter the roll number to search if student has attended the training program or not? ")
    key = int(input())
    location = Sentsearch(array,key)
    if(location !=-1):
        print("Yes, the student attended the training program!!!")
    else:
        print("No, the student has not attended the training program!!!")
else:
    print("Exitting");

def Binsearch(arr,KEY):
    low = 0
    high = len(arr)-1
```

```
    m = 0

    while(low<=high):

        m =(low+high)//2 #mid of the array is obtained

        if(KEY<arr[m]):

            high = m-1#search the left sub list

        elif(KEY>arr[m]):

            low = m+1#search the right sub list

        else:

             return m



    return -1#if element is not present in the list




def FibSearch(arr, key,n):

    # Initialize Fibonacci numbers
```

```
b = 0

a = 1

f = b + a



# f is going to store the smallest

# Fibonacci Number greater than or equal to n

while (f < n):

    b = a

    a = f

    f = b + a

  # Marks the eliminated range from front

offset = -1;



# while there are elements to be inspected.

# we compare arr[i] with key.

while (f > 1):
```

```
# Check if b is a valid location

i = min(offset+b, n-1)



# If key is greater than the value at

# index b, cut the subarray array

# from offset to i

if (arr[i] < key):

    f = a

    a = b

    b = f - a

    offset = i



# If key is lesser than the value at

# index b, cut the subarray
```

```
    # after i+1

    elif (arr[i] > key):

        f = b

        a = a - b

        b = f - a



    # element found. return index

    else :

        return i



# comparing the last element with key

if(a and arr[offset+1] == key):

    return offset+1;



# element not found. return -1

return -1
```

```
#Driver Code

print("\nHow many Students are there?")
n = int(input())
array = []
i=0
for i in range(n):
    print("\n Enter roll number: ")
item = int(input())
array.append(item)
print("The Roll Numbers of Students are ...\n")
print(array)



while(True):

    print("Main Menu")

    print("\n 1. Binary Search")

    print("\n 2. Fibonacci Search")

    print("\n 3. Exit")
```

```
    print("\n Enter your choice: ")

    choice = int(input())

    if(choice == 1):

        print("\n Enter the roll number to search if student has attended the training program or not?
")

        key = int(input())

        location = Binsearch(array,key)

        if(location !=-1):

            print("Yes, the student attended the training program!!!")

        else:

            print("No, the student has not attended the training program!!!")

    elif(choice == 2):

        print("\n Enter the roll number to search if student has attended the training program or not?
")

        key = int(input())

        location = FibSearch(array,key,n)

        if(location !=-1):
```

```
        print("Yes, the student attended the training program!!!")


    else:
        print("No, the student has not attended the training program!!!")
else:
    print("Exitting");
```