```python
#Question 1
#To search a given element in the list and also specify the number of times the element has appeared in the list.
ls=eval(input("Enter list "))
elem=int(input("Enter element to be searched : "))
elem_cnt=0
first=0
for e in range(0,len(ls)):
  if ls[e]==elem:
    elem_cnt+=1
    if elem_cnt==1:
      first=e
if elem_cnt==0:
  print("Element not found")
else:
  print(f"Total {elem_cnt} occurences of element {elem}")
  print(f"First occurence at index {first}")
```

```
Enter list [1,3,4,3,2,3,6]
Enter element to be searched : 3
Total 3 occurences of element 3
First occurence at index 1
```

```python
[ ] #Question 2
#Create a list of ten integer elements. Remove all the odd elements from the list and retain only the even elements. Display the modified list.
import numpy as np
arr=np.random.randint(0,100,size=10)
arr=list(arr)
print("Original Array: " ,arr)
ln=len(arr)
new=[]
for a in range(0,ln):
  if (((arr[a])%2)==0):
    new.append(arr[a])

print("New Array is : ",new)
```

```
Original Array:  [55, 79, 85, 7, 77, 32, 72, 1, 9, 61]
New Array is :  [32, 72]
```

```
#Question 3
#Create a list 'COLORS' which contains names of various colors such as "red", "blue" and "green".
#Also display the following MENU option to the user to perform any one of the following operations:
                  # 1. ADD a new color
                  # 2. REMOVE a color
                  # 3. SEARCH for a given color
                  # 4. SORT the colors in alphabetical order

lst=['red','yellow','green','cyan','purple','black']
def menu():
    print("\n-----------------------------------")
    print("| 1: Add Color  , 2: Remove       |\n| 3: Search  , 4:Sort  , 5:Break  |")
    print("-----------------------------------\n")
    op=int(input("Enter your choice : "))

    if (op==1):
        col=input("color : ")
        lst.append(col)
        print("Updated list looks like ",lst)
    elif (op==2):
        col=input("color : ")
        lst.remove(col)
        print("Updated list looks like ",lst)

    elif (op==3):
        col=input("color : ")
        for a in lst:
            if a==col:
                print("Found at index ",lst.index(a))
        print("Updated list looks like ",lst)

    elif (op==4):
        lst.sort()
        print("Sorted list looks like ",lst)
    elif (op==5):
      return
```

```
    menu()
print("Original list ",lst)
menu()
print(lst)
```

```
Original list  ['red', 'yellow', 'green', 'cyan', 'purple', 'black']

-----------------------------------
| 1: Add Color  , 2: Remove       |
| 3: Search  , 4:Sort  , 5:Break  |
-----------------------------------

Enter your choice : 1
color : pink
Updated list looks like  ['red', 'yellow', 'green', 'cyan', 'purple', 'black', 'pink']

-----------------------------------
| 1: Add Color  , 2: Remove       |
| 3: Search  , 4:Sort  , 5:Break  |
-----------------------------------

Enter your choice : 2
color : cyan
Updated list looks like  ['red', 'yellow', 'green', 'purple', 'black', 'pink']

-----------------------------------
| 1: Add Color  , 2: Remove       |
| 3: Search  , 4:Sort  , 5:Break  |
-----------------------------------

Enter your choice : 3
color : yellow
Found at index  1
Updated list looks like  ['red', 'yellow', 'green', 'purple', 'black', 'pink']

-----------------------------------
| 1: Add Color  , 2: Remove       |
| 3: Search  , 4:Sort  , 5:Break  |
-----------------------------------

Enter your choice : 5
['red', 'yellow', 'green', 'purple', 'black', 'pink']
```

```python
#Question 4
#Write a program to accept names of ten students and store them in a list and then sort the list in alphabetical order.
print("Enter list of students ")
arr=[]
for a in range(10):
  name=input(f"Enter name of student {a+1} :")
  arr.append(name)
print("Original List ",arr)
arr.sort()
print("Sorted List ",arr)
```

```
Enter list of students
Enter name of student 1 :Zenith
Enter name of student 2 :Aman
Enter name of student 3 :Nelson
Enter name of student 4 :Kennedy
Enter name of student 5 :Jawahar
Enter name of student 6 :Mohit
Enter name of student 7 :Jack
Enter name of student 8 :Abhimanyu
Enter name of student 9 :Doraemon
Enter name of student 10 :Billy
Original List  ['Zenith', 'Aman', 'Nelson', 'Kennedy', 'Jawahar', 'Mohit', 'Jack', 'Abhimanyu', 'Doraemon', 'Billy']
Sorted List  ['Abhimanyu', 'Aman', 'Billy', 'Doraemon', 'Jack', 'Jawahar', 'Kennedy', 'Mohit', 'Nelson', 'Zenith']
```

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[ ]  #Question 5
     #Write a program to accept a string from the user and check whether it is a palindrome or not.
     string=input("Enter string ")
     def p_check(string):
       string=string.lower() #I have converted full string to lower case to remove errors due to different case
       for a in range(0,len(string)//2):
         if (string[a]==string[len(string)-a-1]):
           continue
         else:
           return "Not a Pallindrome"
       return "Is a Pallindrome"
     print(string ,p_check(string))
```

```
Enter string Malayalam
Malayalam Is a Pallindrome
```

```python
#Question 6
#Write a program to store marks of 10 students in a list. Determine the  number of students scoring,  ≤75% marks, between 75 to 85% marks and ≥ 85% marks.
lt75=0
bw75_85=0
mt85=0
marks=[]
for a in range(10):
  mark=int(input(f"Enter marks of student {a+1} :"))
  arr.append(mark)
  if (mark<=75):
    lt75+=1
  elif(mark>75 and mark<85):
    bw75_85+=1
  elif (mark>=85):
    mt85+=1
print("Student scoring less than or equal to 75 : ",lt75)
print("Student scoring less than 85 and more than 75 : ",bw75_85)
print("Student scoring more than or equal to 85 : ",mt85)
```

```
Enter marks of student 1 :34
Enter marks of student 2 :75
Enter marks of student 3 :77
Enter marks of student 4 :72
Enter marks of student 5 :55
Enter marks of student 6 :85
Enter marks of student 7 :99
Enter marks of student 8 :75
Enter marks of student 9 :83
Enter marks of student 10 :91
Student scoring less than or equal to 75 :  5
Student scoring less than 85 and more than 75 :  2
Student scoring more than or equal to 85 :  3
```

```python
# Question 7
#Write a program to create a list containing names of ten students. Display a menu option to the
#user to 1.ADD a name in the list 2. Remove a name from the list 3. Sort the list in alphabetical order and 4. Search for
a name in the list
lst=['Zenith', 'Aman', 'Nelson', 'Kennedy', 'Jawahar', 'Mohit', 'Jack', 'Abhimanyu', 'Doraemon', 'Billy']
def menu():
    print("\n-----------------------------------")
    print("| 1: Add Name , 2: Remove Name    |\n| 3: Sort  , 4:Search  , 5:Break  |")
    print("-----------------------------------\n")
    op=int(input("Enter your choice : "))
```

```
    if (op==1):
        col=input("Name to be added : ")
        lst.append(col)
        print("Updated list looks like ",lst)
    elif (op==2):
        col=input("Name to be removed : ")
        lst.remove(col)
        print("Updated list looks like ",lst)

    elif (op==4):
        col=input("Enter name to be searched : ")
        for a in lst:
            if a==col:
                print("Found at index ",lst.index(a))

    elif (op==3):
        lst.sort()
        print("Sorted list looks like ",lst)
    elif (op==5):
      return
    menu()
print("Original list ",lst)
menu()
print(lst)
Original list  ['Zenith', 'Aman', 'Nelson', 'Kennedy', 'Jawahar', 'Mohit', 'Jack', 'Abhimanyu', 'Doraemon', 'Billy']

-----------------------------------
| 1: Add Name , 2: Remove Name    |
| 3: Sort  , 4:Search  , 5:Break  |
-----------------------------------

Enter your choice : 1
Name to be added : Zatch
Updated list looks like  ['Zenith', 'Aman', 'Nelson', 'Kennedy', 'Jawahar', 'Mohit', 'Jack', 'Abhimanyu', 'Doraemon',
'Billy', 'Zatch']

-----------------------------------
| 1: Add Name , 2: Remove Name    |
```

```
| 3: Sort  , 4:Search  , 5:Break  |
-----------------------------------

Enter your choice : 2
Name to be removed : Jawahar
Updated list looks like  ['Zenith', 'Aman', 'Nelson', 'Kennedy', 'Mohit', 'Jack', 'Abhimanyu', 'Doraemon', 'Billy',
'Zatch']

-----------------------------------
| 1: Add Name , 2: Remove Name    |
| 3: Sort  , 4:Search  , 5:Break  |
-----------------------------------

Enter your choice : 3
Sorted list looks like  ['Abhimanyu', 'Aman', 'Billy', 'Doraemon', 'Jack', 'Kennedy', 'Mohit', 'Nelson', 'Zatch',
'Zenith']

-----------------------------------
| 1: Add Name , 2: Remove Name    |
| 3: Sort  , 4:Search  , 5:Break  |
-----------------------------------

Enter your choice : 4
Enter name to be searched : Doraemon
Found at index  3

-----------------------------------
| 1: Add Name , 2: Remove Name    |
| 3: Sort  , 4:Search  , 5:Break  |
-----------------------------------

Enter your choice : 5
['Abhimanyu', 'Aman', 'Billy', 'Doraemon', 'Jack', 'Kennedy', 'Mohit', 'Nelson', 'Zatch', 'Zenith']
```