(https://www.darshan.ac.in/)

Python Programming - 2101CS405

Lab - 5

SACHIN PATADIYA

22010101142

In [ ]:
```
# list
```

01) WAP to find sum of all the elements in List.

In [10]:
```
my_list=[]
sum=0
choice=0
while choice!=-1:
    choice=int(input("Enter number :"))
    my_list.append(choice)
my_list.pop()
for i in my_list:
    sum+=i
print(f"total sum is ",sum)
```

```
Enter number :1
Enter number :2
Enter number :3
Enter number :4
Enter number :5
Enter number :-1
total sum is  15
```

02) WAP to find largest element in a List.

In [11]:
```
list=[]
choice=0
while choice!=-1:
    choice=int(input("Enter number :"))
    list.append(choice)
list.sort()
ans=list.pop()
print(f"largest element is ",ans)
```

```
Enter number :1
Enter number :2
Enter number :10
Enter number :3
Enter number :0
Enter number :-1
largest element is  10
```

03) WAP to split the List into two and append the first part to the end.

In [20]:
```
my_list=[]
my_second_list=[]
choice=0
while choice!=-1:
    choice=int(input("Enter number :"))
    my_list.append(choice)
else:
    my_list.pop()
my_second_list=my_list[len(my_list)//2:]
my_second_list.extend(my_list[0:len(my_list)//2])

print(my_second_list)
```

```
Enter number :1
Enter number :2
Enter number :3
Enter number :4
Enter number :-1
[3, 4, 1, 2]
```

04) WAP to interchange first and last elements in list entered by a user.

In [24]:
```
my_list=[]
choice=0
while choice!=-1:
    choice=int(input("Enter number :"))
    my_list.append(choice)
else:
    my_list.pop()
temp=my_list[0]
my_list[0]=my_list[len(my_list)-1]
my_list[len(my_list)-1]=temp
print(my_list)
```

```
Enter number :1
Enter number :2
Enter number :3
Enter number :4
Enter number :-1
[4, 2, 3, 1]
```

05) WAP to interchange the elements on two positions entered by a user.

In [25]:
```
list=[]
choice=0
while choice!=-1:
    choice=int(input("Enter number :"))
    list.append(choice)
else:
    list.pop()
a=int(input("Enter first position"))
b=int(input("Enter second position"))

temp=list[a]
list[a]=list[b]
list[b]=temp

print(list)
```

```
Enter number :1
Enter number :2
Enter number :3
Enter number :4
Enter number :5
Enter number :6
Enter number :-1
Enter first position2
Enter second position4
[1, 2, 5, 4, 3, 6]
```

06) WAP to reverses the list entered by user.

In [27]:
```
list=[]
choice=0
while choice!=-1:
    choice=int(input("Enter number :"))
    list.append(choice)
else:
    list.pop()
list.reverse()
print(list)
```

```
Enter number :1
Enter number :2
Enter number :3
Enter number :4
Enter number :-1
[4, 3, 2, 1]
```

07) Python program to remove multiple elements from a list using list comprehension

In [30]:
```
list=[]
list2=[]
ans=[]
choice=0
index=0
while choice!=-1:
    choice=int(input("Enter number :"))
    list.append(choice)
else:
    list.pop()

while index!=-1:
    index=int(input("Enter index to remove number :"))
    if index>=len(list):
        break;
    list2.append(index)
else:
    list2.pop()

ans=[list.remove(i) for i in list if i in list2]
print(list)
```

```
Enter number :1
Enter number :2
Enter number :3
Enter number :4
Enter number :-1
Enter index to remove number :0
Enter index to remove number :2
Enter index to remove number :-1
[1, 3, 4]
```

08) Create a list from the specified start to end index of another list.

In [35]:
```
list1=[]
list2=[]
choice=0
while choice!=-1:
    choice=int(input("Enter number :"))
    list1.append(choice)
else:
    list1.pop()

start=int(input("Enter number :"))
end=int(input("Enter number :"))

list2=list1[start:end+1]
print(list2)
```

```
Enter number :1
Enter number :2
Enter number :3
Enter number :4
Enter number :-1
Enter number :2
Enter number :4
[3, 4]
```

09) Input comma separated elements, convert into list and print.

In [36]:
```
a=input("Enter input ")
list=a.split(",")
list
```

```
Enter input sachin,patadiya
```

Out[36]:
```
['sachin', 'patadiya']
```

01) WAP to count Even and Odd numbers in a List.

In [1]:
```
list1=[]
choice,cE,cO=0,0,0
while choice!=-1:
    choice=int(input("Enter number :"))
    list1.append(choice)
else:
    list1.pop()
for i in range(0,len(list1)):
    if list1[i]%2==0:
        cE=cE+1
    else:
        cO=cO+1
print(f"Total Even number is {cE}")
print(f"Total Odd number is {cO}")
```

```
Enter number :1
Enter number :2
Enter number :3
Enter number :4
Enter number :5
Enter number :-1
Total Even number is 2
Total Odd number is 3
```

02) Python program to find N largest and smallest elements from the list

In [6]:
```
list=[]
choice=0
while choice!=-1:
    choice=int(input("Enter Number "))
    list.append(choice)
else:
    list.pop()
a=int(input("Enter the count of largest number "))
b=int(input("Enter the count of smallest number "))

list.sort()
print(f"{b} smallest number is {list[0:b]}")
print(f"{a} largest number is {list[len(list)-a:len(list)]}")
```

```
Enter Number 1
Enter Number 2
Enter Number 3
Enter Number 0
Enter Number 10
Enter Number -10
Enter Number 11
Enter Number 16
Enter Number 19
Enter Number 3
Enter Number 4
Enter Number -1
Enter the count of largest number 5
Enter the count of smallest number 6
6 smallest number is [-10, 0, 1, 2, 3, 3]
5 largest number is [4, 10, 11, 16, 19]
```

03) WAP to print duplicates from a list of integers

In [22]:
```
def find_duplicates(lst):
    seen = set()
    duplicates = set()
    for num in lst:
        if num in seen:
            duplicates.add(num)
        else:
            seen.add(num)

    return duplicates

list=[]
choice=0
while choice!=-1:
    choice=int(input("Enter Number "))
    list.append(choice)
else:
    list.pop()

duplicate_numbers = find_duplicates(list)
print("duplicate number is :", duplicate_numbers)
```

```
Enter Number 1
Enter Number 2
Enter Number 1
Enter Number 3
Enter Number 4
Enter Number 5
Enter Number 4
Enter Number -1
duplicate number is : {1, 4}
```