**LIST OPERATIONS**

**QUESTION**:

Write a Menu driven program to accept a list and perform the following:

* Print the count and sum of all odd numbers
* Print the count and sum of all even numbers
* Count the frequency of an element from the list
* Remove duplicate elements from the list
* Rotate the list to move the 1st element to the 2nd index, 2nd element to the 3rd index, 3rd element the 4th index, and so on and the last element to the 1st index.

**CODE**:

a = []

odd = 0

even = 0

oddsum = 0

evensum = 0

freq = {}

for i in range(int(input('Enter number of elements:'))):

b=int(input('Enter number: '))

a+=[b]

if b%2 == 0:

even += 1

evensum += b

else:

odd += 1

oddsum += b

for i in a:

if i not in freq:

freq[i] = 1

else:

freq[i] = freq[i]+1

while True:

opt = int(input('What do you want to do?\n1.Print the count and sum of all odd numbers\n2.Print and count the sum of all even numbers\n3.Count the frequency of an element from the list\n4.Remove duplicates from the list\n5.Rotate the list\n6.Exit\nChoose an option: '))

if opt == 1:

print(f'The sum is {oddsum} and there are like {odd} odd elements in the list.')

elif opt == 2:

print(f'The sum is {evensum} and there are like {even} even elements in the list.')

elif opt == 3:

element1=int(input('Enter element to search for:'))

print(f'Frequency is {freq[element1] if element1 in freq else 0}.')

elif opt == 4:

a2=[]

for i in a:

if i not in a2:

a2 += [i]

a = a2

print(f'The list is now {a}.')

elif opt == 5:

a = a[-1:] + a[0:-1]

print(f'The list is {a}.')

elif opt == 6:

break

else:

print('Invalid selection. Please rerun the program.')

**OUTPUT**:

Enter number of elements:4

Enter number: 1

Enter number: 2

Enter number: 3

Enter number: 4

What do you want to do?

1.Print the count and sum of all odd numbers

2.Print and count the sum of all even numbers

3.Count the frequency of an element from the list

4.Remove duplicates from the list

5.Rotate the list

6.Exit

Choose an option: 1

The sum is 4 and there are like 2 odd elements in the list.

What do you want to do?

1.Print the count and sum of all odd numbers

2.Print and count the sum of all even numbers

3.Count the frequency of an element from the list

4.Remove duplicates from the list

5.Rotate the list

6.Exit

Choose an option: 2

The sum is 6 and there are like 2 even elements in the list.

What do you want to do?

1.Print the count and sum of all odd numbers

2.Print and count the sum of all even numbers

3.Count the frequency of an element from the list

4.Remove duplicates from the list

5.Rotate the list

6.Exit

Choose an option: 3

Enter element to search for:1

Frequency is 1.

What do you want to do?

1.Print the count and sum of all odd numbers

2.Print and count the sum of all even numbers

3.Count the frequency of an element from the list

4.Remove duplicates from the list

5.Rotate the list

6.Exit

Choose an option: 4

The list is now [1, 2, 3, 4].

What do you want to do?

1.Print the count and sum of all odd numbers

2.Print and count the sum of all even numbers

3.Count the frequency of an element from the list

4.Remove duplicates from the list

5.Rotate the list

6.Exit

Choose an option: 5

The list is [4, 1, 2, 3].

What do you want to do?

1.Print the count and sum of all odd numbers

2.Print and count the sum of all even numbers

3.Count the frequency of an element from the list

4.Remove duplicates from the list

5.Rotate the list

6.Exit

Choose an option: 6