

1) Python program to count Even and Odd numbers in a List

```
# list of numbers
list1 = [10, 21, 4, 45, 66, 93, 1]
even_count, odd_count = 0, 0
# iterating each number in list
for num in list1:
    # checking condition
    if num % 2 == 0:
        even_count += 1
    else:
        odd_count += 1
print("Even numbers in the list: ", even_count)
print("Odd numbers in the list: ", odd_count)
```

2) This Python program finds longest word from a given text or sentence.

Longest word

Reading sentence from user

```
sentence = input("Enter sentence: ")
# Finding longest word
longest = max(sentence.split(), key=len)

# Displaying longest word
print("Longest word is: ", longest)
print("And its length is: ", len(longest))
```

In this program, first we read sentence from user then we use string `split()` function to convert it to list. After splitting it is passed to `max()` function with keyword argument `key=len` which returns **longest word from sentence**.

3) Write a python program to count the number of occurrences of character in a string.

Example 1: Using a for loop

```
count = 0

my_string = "Programiz"
my_char = "r"

for i in my_string:
    if i == my_char:
        count += 1

print(count)
```

Example 2: Using method count()

```
my_string = "Programiz"
my_char = "r"

print(my_string.count(my_char))
```

4) Write a Python program that accepts a sentence and find the number of words, digits, uppercase letters and lowercase letters.

```
def Count(str):
    up, low, num, special = 0, 0, 0, 0
    for i in range(len(str)):
        if str[i] >= 'A' and str[i] <= 'Z':
            up += 1
        elif str[i] >= 'a' and str[i] <= 'z':
            low += 1
        elif str[i] >= '0' and str[i] <= '9':
            num += 1
        else:
            special += 1
    print("LETTERS :", up + low, "DIGITS :", num, "UPPERCASE :", up, "LOWERCASE :", low)
print("Enter a sentence")
str = input()
Count(str)
```

5) You are creating a fantasy video game. The data structure to model the player's inventory will be a dictionary where the keys are string values describing the item in the inventory and the value is an integer value detailing how many of that item the player has. For example, the dictionary value {'rope': 1, 'torch': 6, 'gold coin': 42, 'dagger': 1, 'arrow': 12} means the player has 1 rope, 6 torches, 42 gold coins, and so on. Write a function named

displayInventory() that would take any possible "inventory" and display it like the following:

```
# Inventory:
# 12 arrow
# 42 gold coin
# 1 rope
# 6 torch
# 1 dagger
# Total number of items: 63
```

```
stuff = {'arrow':12, 'gold coin':42, 'rope':1, 'torch':6, 'dagger':1}
```

```
def displayInventory(inventory):
    print('Inventory:')
    item_total = 0
    for k, v in inventory.items():
        print(str(v) + ' ' + str(k))
```

```

        item_total += v
    print('Total number of items: ' + str(item_total))

displayInventory(stuff)

```

6)Python program to find sum of elements in list

```

total = 0

# creating a list
list1 = [11, 5, 17, 18, 23]

# Iterate each element in list
# and add them in variable total
for x in range(0, len(list1)):
    total = total + list1[x]

# printing total value
print("Sum of all elements in given list: ", total)

```

7)Python program to multiply all values in the list using traversal

```

def multiplyList(myList):

    # Multiply elements one by one
    result = 1
    for x in myList:
        result = result * x
    return result

list1 = [1, 2, 3]
list2 = [3, 2, 4]
print(multiplyList(list1))
print(multiplyList(list2))

```

8)Python program to find largest number in a list

```

# list of numbers
list1 = [10, 20, 4, 45, 99]

# sorting the list
list1.sort()

# printing the last element
print("Largest element is:", list1[-1])
#

```

9)Python program to find largest number in a list

```
# list of numbers
list1 = [10, 20, 4, 45, 99]
# printing the maximum element
print("Largest element is:", max(list1))
```

10)Python program to find smallest number in a list

```
# list of numbers
list1 = [10, 20, 4, 45, 99]
# sorting the list
list1.sort()
# printing the first element
print("Smallest element is:", list1[0])
```

11)Python program to find smallest

```
# list of numbers
list1 = [10, 20, 4, 45, 99]
# sorting the list
list1.sort(reverse=True)
# printing the first element
print("Smallest element is:", list1[-1])
```

12)Python program to find smallest number in a list

```
# list of numbers
list1 = [10, 20, 1, 45, 99]
# printing the maximum element
print("Smallest element is:", min(list1))
```