Quizzes Questions

1- Write a python program to read a list of numbers from the user and print the largest number in the list.(without using max method)

```
list1 = []
x = int(input("Enter the size of list: "))
for i in range(x):
    list1.append(input("enter the num= "))
max_num = list1[0]
for i in range(len(list1)):
    if list1[i] > max_num:
        max_num = list1[i]
print("The maximum number in the list is: ",max_num)
```

2- Write a program to replace each even number in a list with the next odd number, and each odd number with the previous even number.
Input: lst = [4, 11, 6, 3, 10, 22, 15]
Output: lst = [5, 10, 7, 2, 11, 23, 14

```
list = [4, 11, 6, 3, 10, 22, 15]
list2 = []
for i in list:
    if i%2 == 0:
        i += 1
        list2.append(i)
    else:
        i -= 1
        list2.append(i)
print(list2)
```

3- Given two nested lists, write a program to add the values of each element in the second list at the beginning of the corresponding element in the first list.

```
list1 = [[9, 11], [15, 20, 25], [6, 8]]
list2 = [[3, 5, 7], [5, 10], [0, 2, 4]]
list3 = []
for i in range(len(list1)):
    j = list2[i]
    z = list2[i]+list1[i]
    list3.append(z)
print(list3)
```

4- Write a program to print the sum of each row and each column of a given matrix.

```
list = [[3, 5, 7], [5, 10, 9], [0, 2, 4]]
a = 1
for i in range(len(list[0])):
    sum_col = 0
    for j in list:
        if i == 0:
            print("The sum of row",a,":",sum(j))
            a += 1
        sum_col += j[i]
    print("The sum of column", i+1,":" ,sum_col)
```

5- Write a program to read m*n matrix from the user and print the average of even and odd numbers separately.

```
m = int(input("Entr a number of rows: "))
n = int(input("Entr a number of columns: "))
matrix = [[int(input("Enter a num: ")) for j in range(n)] for i in range(m)]
print(matrix)
sum_even = 0
sum_odd = 0
count_even = 0
count_odd = 0
for i in range(m):
    for j in range(n):
        if matrix[i][j] % 2 == 0:
            sum_even += matrix[i][j]
            count_even += 1
        else:
            sum_odd += matrix[i][j]
            count_odd += 1

print("The average of even numbers is: ", sum_even / count_even)
print("The average of odd numbers is: ", sum_odd / count_odd)
```

6- Write a python program to swap the first and last value of a given list.

Input: lst = [3, 7, 2, 10, 6, 4, 8]

Output: lst = [8, 7, 2, 10, 6, 4, 3]

```
m = int(input("Enter size of list: "))
list = [ ]
for i in range(m):
    list.append(int(input("Enter a number: ")))
z = list[0]
list[0] = list[len(list) - 1]
list[len(list) - 1] = z
print(list)
```

OR:

```
m = int(input("Enter size of list: "))
list = [int(input("Enter a number: ")) for i in range(m)]
z = list[0]
list[0] = list[len(list) - 1]
list[len(list) - 1] = z
print(list)
```

7- Write a python program to read m x n matrix from the user. If the number of columns is greater than the number of rows, prints the maximum value of each additional column

Input:

5	3	6	5	1
2	4	7	6	9
6	8	2	3	5

output:

The maximum value of col4 : 6

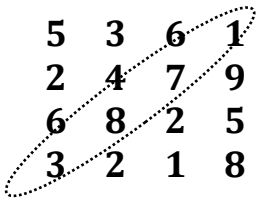
The maximum value of col5 : 9

```
r = int(input("Entr a number of rows: "))
c = int(input("Entr a number of columns: "))
M = [[int(input("Enter a num")) for j in range(c)] for i in range(r)]
for i in range(len(M[0])):
    list = [ ]
    for j in range(len(M)):
        if i > j and i >= r:
            list.append(M[j][i])
    if len(list) != 0:
        max = list[0]
```

```
    for k in list:
        if max < k:
            max = k
    print("The maximum value of ",i+1 , " = " ,max)
```

8- Write a python program to read n x n matrix from the user, and print the maximum value on the right diagonal of the matrix.

Input :



output:

The maximum value on the diagonal = 8

```
r_c = int(input("Entr a number of rows and column: "))
M = [[int(input("Enter a num")) for j in range(r_c)] for i in range(r_c)]
list = [ ]
for i in range(len(M)):
    a = -1
    for j in range(len(M[0])):
        list .append(M[j][a])
        a -= 1
max = list[0]
for i in list:
    if max<i:
        max = i
print("The maximum value on the right diagonal",max)
```

9- Write a function named sum_positive that takes a list as a parameter and returns the sum of positive numbers in the list.

```
def sum_positive(l):
    p_sum = 0
    for i in l:
        if i > 0 :
            p_sum = p_sum + i
    return  p_sum
list = [1,2,-3,4,-5,6]
print(sum_positive(list))
```

10- Write a function named maxEvenMinOdd that takes a list as a parameter and returns the largest even number and the smallest odd number in the list.

```
list1 =[ ]
list2 = [ ]
def maxEvenMinOdd(l):
    for i in l:
        if i %2 == 0 :
            list1.append(i)
        else:
            list2.append(i)
    print(max(list1))
    print(min(list2))
list = [31,25,62,44,51,77,80]
maxEvenMinOdd(list)
```

11- Write a function named NmaxNumbers that takes a N and list as a parameter and to find N largest elements (Without using max method) .

- **Input : [81, 52, 45, 10, 3, 2, 96]**
  N = 3
- **Output : [96,81, 52]**

```
def Nmaxelements(list1, N):
    final_list = []
    for i in range(N):
        max1 = 0
        for j in range(len(list1)):
            if list1[j] > max1:
                max1 = list1[j]
        list1.remove(max1)
        final_list.append(max1)
    print(final_list)
list1 = [81, 52, 45, 10, 3, 2, 96]
N = 4
Nmaxelements(list1, N)
```

12- Write a python program to Find the Length of a given List (without using len method). List = [2 , 4, 6, 1, 9 ,3]

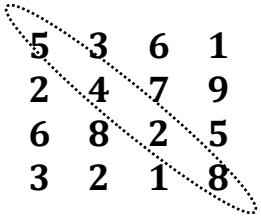
```
List = [1, 4, 5, 7, 8]
counter = 0
for i in List:
    counter += 1
print("Length of list is : ", counter)
```

13- Write a python program to read n x n matrix from the user, and reverse the values on the left diagonal of the matrix.

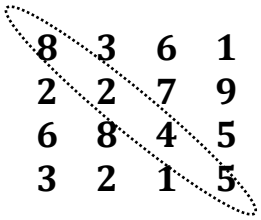
Input:

Enter n: 4

Enter Matrix:



Output :




```
r_c = int(input("Entr a number of rows and column: "))
M = [[int(input("Enter a num")) for j in range(r_c)] for i in range(r_c)]
list = [ ]
a = -1
for i in range(len(M)):
    list.append([])
    for j in range(len(M[i])):
        if i ==j:
            list[i].append(M[a][a])
            a -= 1
        else:
            list[i].append(M[i][j])
for i in list:
    for j in i:
        print(j , end=" ")
    print( )
```

14- Write a function named Vowels_Cou that counts vowels and consonants in a word. Vowels (a , i , o , e, u)

```
def cou(x):
    v = 0
    c = 0
    for i in range(len(x)):
        if x[i] in ['a','e','i','o','u']:
            v += 1
        else:
            c += 1
    print("count of vowels is ",v)
    print("count of constant is ",c)
word = input("Enter a word: ")
cou(word)
```

15- Write a Python program that takes two lists and returns True if they have at least one common member.

```
list1 = [ ]
list2 = [ ]
x = int(input("how many items in first list "))
for i in range(x):
    list1.append(input("enter the num= "))
y = int(input("how many items in second list "))
for j in range(y):
    list2.append(input("enter the num= "))
for i in list1:
    for j in list2:
        if i==j:
            print("True")
        break
```

OR:

```
x = int(input("how many items in first list "))
list1=[input("enter the num= ") for i in range(x)]
y = int(input("how many items in second list "))
list2=[input("enter the num= ") for i in range(y)]
for i in list1:
    for j in list2:
        if i==j:
            print("True")
        break
```

16- Write a python program to read a list of numbers from the user and move all zero digits to end of list .

```
size = int(input(" How many items in the list: "))
list = [int(input("Enter number " + str(i) + ": ")) for i in range(1, size + 1)]
for i in list:
    if i==0:
        list.remove(i)
        list.append(i)
print("The list after move all zero digits: ",list)
```

17- Find index of maximum item in a given list without using built in functions.

```
list1 = [2, 4, 6, 1, 8, 5, 3]
ind = 0
max_element = list1[0]
for i in range(1, len(list1)):
    if list1[i] > max_element:
        max_element = list1[i]
        ind = i
print("Index of the maximum element in the list is: ", ind)
```

18- Write a function named Max_product that takes a 2D list as a parameter to get Maximum product of elements of list in a 2D list.
list = [[4, 2, 7], [3, 8, 6], [1, 5, 9]]

```
def prod(lis):
    maxi = 0
    for x in lis:
        p = 1
        for i in x:
            p *= i
            maxi = max(p, maxi)
    return maxi
L = [[4, 2, 7], [3, 8, 6], [1, 5, 9]]
print(prod(L))
```

19- Write a function named IsMonotonic that takes a list as a parameter and check if given array is Monotonic or not.

```
def isMonotonic(A):
    x, y = [], []
    x.extend(A)
    y.extend(A)
    x.sort()
    y.sort(reverse=True)
    if (x == A or y == A):
        return True
    return False
B = [6, 5, 4, 3]
print(isMonotonic(B))
```

#write python program that prompts user to enter the color of traffic light, and then acts upon it.

```
def guessLight(l):
    if l == 'red':
        print('stop')
    elif l == 'yellow':
        print('Slow down')
    elif l == 'green':
        print('go')
    else:
        print('invalid entry, Choose between red, green, and yellow.')
light = input('please enter the color of traffic light')
guessLight(light.lower())
```

#create simple calculator By using functions:

```
def sum(num1,num2):
    return num1+num2

def subtract(num1,num2):
    return num1-num2

def multiply(num1,num2):
    return num1*num2

def divide(num1,num2):
    return num1/num2

def remainder(num1,num2):
    return num1%num2
def power(number,power):
    counter = 1
    result = 1
    while counter <= power:
        result *= number  # same as result=result*n
        counter += 1  # same counter=counter+1
    return result

x=int(input('please enter first number:'))
y=int(input('please enter second number:'))
```

```
choice=input("1.summation\n2.subtract\n3.multiply\n4.divide\n5.remainder\n6.power")
if choice=="1":
    print('the summation result is :' , sum(x,y))
elif choice=="2":
    print('the subtraction result is :',subtract(x,y))
elif choice=="3":
    print('the multiplication result is :',multiply(x,y))
elif choice=="4":
    print('the division result is :',divide(x,y))
elif choice == "5":
    print('the remainder result is :', remainder(x, y))
elif choice == "6":
    print('the power result is :',power(x, y))
else:
    print("invalid entry")
```