

PRACTICAL NO 8

Q1)

#design a program for creating a machine which count number

#of 1's and 0's in a given string in python.

```
def stateq0(n,countzero,countone):
    print("Q0->",end="")
    if (len(n)==0):
        print("\n total no of 0: ",len(countzero))
        print("\n total no of 1: ",len(countone))
    else:
        if(n[0]=='0'):
            countzero.append('0')
            stateq0(n[1:],countzero,countone)
        elif (n[0]=='1'):
            countone.append('1')
            stateq1(n[1:],countzero,countone)
```

```
def stateq1(n,countzero,countone):
    print("Q1->",end="")
    if (len(n)==0):
        print("\n total no of 0: ",len(countzero))
        print("\n total no of 1: ",len(countone))
    else:
        if(n[0]=='0'):
            countzero.append('0')
            stateq0(n[1:],countzero,countone)
        elif (n[0]=='1'):
            countone.append('1')
            stateq1(n[1:],countzero,countone)
```

```
countzero=[]
```

```
countone=[]
```

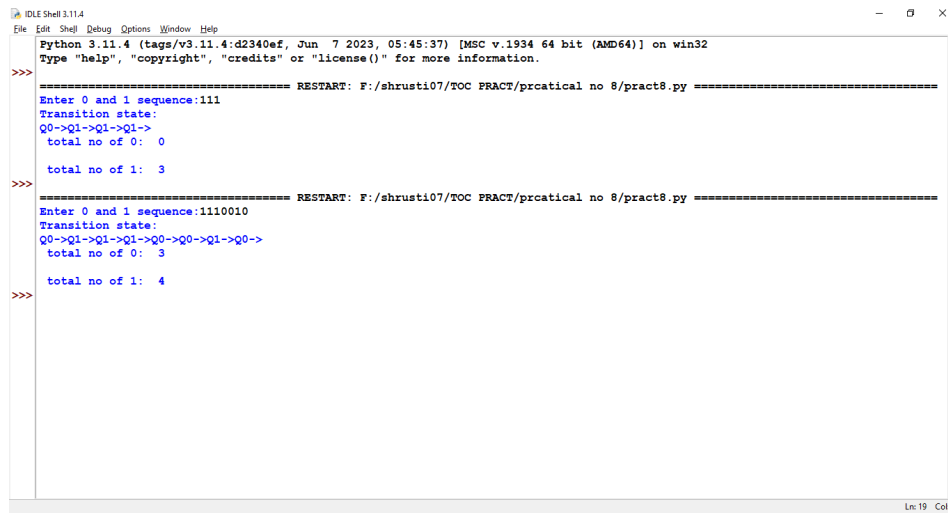
```
#take 0 and 1 sequence from user
```

```
n=input("Enter 0 and 1 sequence:")
```

```
print("Transition state:")
```

```
stateq0(n,countzero,countone)
```

o/p:



```
Python 3.11.4 (tags/v3.11.4:d2340ef, Jun 7 2023, 05:45:37) [MSC v.1934 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: F:/shrusti07/TOC PRACT/practical no 8/pract8.py =====
Enter 0 and 1 sequence:111
Transition state:
Q0->Q1->Q1->Q1->
total no of 0: 0
total no of 1: 3
>>>
===== RESTART: F:/shrusti07/TOC PRACT/practical no 8/pract8.py =====
Enter 0 and 1 sequence:1110010
Transition state:
Q0->Q1->Q1->Q1->Q0->Q0->Q1->Q0->
total no of 0: 3
total no of 1: 4
>>>
```