

Task 19

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1. Write a program to count number of vowels from user input string, using for loop.

Answer:

```
str=input("enter a string : ")
vowels=["a","e","i","o","u","A","E","I","O","U"]

def checkvowel(str):
    count=0
    for i in str:
        if i in vowels:
            count+=1
    return count

print("the input string has ",checkvowel(str)," vowels")
```

2. Print fibonacci series using for loop.

Answer:

```
count=int(input("till how many numbers you want fibonacci sequence : "))
if (count==1):
    print("[0]")
elif(count==2):
    print("[0,1]")

fibonacci=[0,1]
index=2
for i in range(count-2):
    ref=fibonacci[index-1]+fibonacci[index-2]
    fibonacci.append(ref)
    index+=1

if count>=3:
    print(fibonacci)
else:
    print("invalid input.")
```

3. Patterns printing

Answer:

```
def pattern1():
    n=14
```

```

    for i in range(1,n+1):
        if i%2==1 and i%7!=0:
            print('    *')
        if i%7==0:
            print("*"*9)
pattern1()

def pattern2():
    n = 9
    for i in range(n):
        for j in range(n):
            if j == 0 or j == n-1 or i == j or i + j == n - 1:
                print('*', end=' ')
            else:
                print(' ', end=' ')
        print()
pattern2()


def pattern3():
    n=5
    for i in range(n):
        print(' '*(n-i-1)+'*'*((2*i+1)))
    for i in range(1,n):
        print(' '*i+'*'*((2*(n-i)-1)))
pattern3()

def pattern4():
    n=4
    for i in range(n):
        spaces=n-i
        betweenpace=2*i-1
        if(i==0):
            print("    1")
        else:
            print(' '*(spaces)+chr(i+49)+' '*(betweenpace)+chr(i+49))
    print("1 2 3 4 5")
pattern4()

def pattern5():
    n=5
    for i in range(n):
        spaces=n-i-1
        betweenpace=2*i-1

```

```
if(chr(65+i)=='A'):
    print("    A")
else:
    print(' '*spaces+chr(65+i)+' '*betweenspace+chr(65+i))

pattern5()
```