ASSIGNMENT 4

Wap to read numbers until -1 is encountered and count the total prime and composite numbers entered.

In [ ]:
```
n=int(input("Enter number :"))
cp=0
cc=0
index=0
while(n!=-1):
    for i in range(2, n):
        if(n%i==0):
            cc+=1
            index=1
            break
    if(index==0):
        cp+=1;
    n=int(input("Enter number :"))
print("Number of prime integers :", cp)
print("Number of composite integers :", cc)
```

WAP to print the following series:-

i) 1 + 1/2 + ... + 1/n

In [1]:
```
n=int(input("Enter limit :"))
s=0
for i in range(1, n+1):
    s+=(1/i)
print("Sum :", round(s, 2))
```

```
Enter limit :2
Sum : 1.5
```

ii) 1/1^2 + 1/2^2 + 1/3^3 + ... + 1/n^2

In [2]:
```
n=int(input("Enter limit :"))
s=0
for i in range(1, n+1):
    s+=1/(i**2);
print("Sum :", round(s, 2))
```

```
Enter limit :3
Sum : 1.36
```

iii) 1/2 + 2/3 + 3/4 + ... + n/n+1

In [3]:
```
n=int(input("Enter limit :"))
s=0
for i in range(1, n+1):
    s+=i/(i+1);
print("Sum :", round(s, 2))
```

```
Enter limit :10
Sum : 7.98
```

iv) 1 + 2^2/2 + 3^3/3 + ... + n^n/n

In [4]:
```
n=int(input("Enter limit :"))
s=0
for i in range(1, n+1):
    s+=(i**i)/i;
print("Sum :", round(s, 2))
```

```
Enter limit :4
Sum : 76.0
```

WAP to print a pattern :-

In [5]:
```
n=int(input("Enter limit :"))
for i in range(0, n):
    for j in range(0, i):
        print('*', end=' ')
    print('')
```

```
Enter limit :5

*
* *
* * *
* * * *
```

In [6]:
```
n=int(input("Enter limit :"))
for i in range(0, n):
    for j in range(1, n-i):
        print('', end=' ')
    for k in range(0, i):
        print('*', end='')
    print('')
```

```
Enter limit :5

   *
  **
 ***
****
```

In [7]:
```
n=int(input("Enter limit :"))
for i in range(0, n):
    for j in range(1, n-i):
        print('', end=' ')
    for k in range(0, i):
        print('*', end=' ')
    print('')
```

```
Enter limit :5

   *
  * *
 * * *
* * * *
```

In [8]:
```
n=int(input("Enter limit :"))
for i in range(0, n):
    for k in range(0, n):
        print('*', end=' ')
    print('')
```

```
Enter limit :4
* * * *
* * * *
* * * *
* * * *
```

In [9]:
```
n=int(input("Enter limit :"))
for i in range(0, n):
    for j in range(1, i+1):
        print(j, end=' ')
    print('')
```

```
Enter limit :5

1
1 2
1 2 3
1 2 3 4
```

In [11]:
```
n=int(input("Enter limit :"))
for i in range(1, n+1):
    for j in range(0, i):
        print(i, end=' ')
    print('')
```

```
Enter limit :4
1
2 2
3 3 3
4 4 4 4
```

In [12]:
```
n=int(input("Enter limit :"))
c=0
for i in range(1, n+1):
    for j in range(0, i):
        print(c, end=' ')
        c+=1
    print('')
```

```
Enter limit :4
0
1 2
3 4 5
6 7 8 9
```

In [15]:
```
n=int(input("Enter limit :"))
for i in range(1, n+1):
    for j in range(0, n-i):
        print(' ', end=' ')
    for k in range(1, i+1):
        print(k, end=' ')
    print('')
```

```
Enter limit :5
        1
      1 2
    1 2 3
  1 2 3 4
1 2 3 4 5
```

In [16]:
```
n=int(input("Enter limit :"))
for i in range(0, n):
    for j in range(0, n-i):
        print(' ', end=' ')
    for k in range(1, i+2):
        print(k, end=' ')
    for l in range(i, 0, -1):
        print(l, end=' ')
    print('')
```

```
Enter limit :5
          1
        1 2 1
      1 2 3 2 1
    1 2 3 4 3 2 1
  1 2 3 4 5 4 3 2 1
```

WAP to convert time into minutes.

In [1]:
```
print("Enter time taken :")
hh=int(input("Enter hours :"))
mm=int(input("Enter minutes :"))
mi=int(hh*60)+mm
print("Time in minutes :", mi)
```

```
Enter time taken :
Enter hours :55
Enter minutes :64
Time in minutes : 3364
```

WAP with a function which takes variable input from user and uses docstrings.

In [3]:
```
def var(*nos):
    """Finds the sum of the numbers inputted by users through a variable argument.
    s=0
    for i in nos:
        s+=i
    print(f'Sum :{s}')

print("Docstring:-\n", var.__doc__, sep='')
```

```
Docstring:-
Finds the sum of the numbers inputted by users through a variable argument.
```

In [4]:
```
var(4545, 67867, 1212, 556, 1023)
```

```
Sum :75203
```

WAP to find GCD and LCM of two numbers.

In [2]:
```
def gcd(a, b):
    if(b==0):
        return a
    return gcd(b, a%b)

def lcm(a, b):
    return int((a*b) / gcd(a,b))

a, b=input("Enter values of a and b :").split()
a, b= int(a), int(b)
if(gcd(a, b)):
    print("GCD :", gcd(a, b))
else:
    print("GCD not found.")
print("LCM :", lcm(a, b))
```

```
Enter values of a and b :42 56
GCD : 14
LCM : 168
```