Write a program to find the sum of the given series 1+2+3+ . . . . . .(**N** terms)

```
N=int(input("Enter the value of N ")) # 5
s=0
for value in range(1,N+1): # Start=1,Stop=6,Step=1
    s=s+value

print(s)
```

Given a number N. Count the number of digits in N which evenly divides N.

Note :- Evenly divides means whether **N** is divisible by a digit i.e. leaves a remainder 0 when divided.

Example 1:
Input:
N = 12
Output:
2
Explanation:
1, 2 both divide 12 evenly

```
num=int(input("Enter any number "))
num1=num
while num>0:
    d=num%10
    if num1%d==0:
        print(f'{d} divide {num1} evenly')
    num=num//10
```

Given a non-empty sequence of characters str, return true if sequence is Binary, else return false

Example 1:

Input:

str = 101

Output:

1

Explanation:

Since string contains only 0 and 1, output is 1.

Example 2:

Input:

str = 75

Output:

0

Explanation:

Since string contains digits other than 0 and 1, output is 0.

```
str1=input("Enter any string ")
output=1
for ch in str1:
    if ch not in "10":
        output=0
        break

print(output)
```

Given a string, remove spaces from it.

Example 1:

Input:

S = "geeks for geeks"

Output: geeksforgeeks

Explanation: All the spaces have been removed.

Example 2:

Input:

S = " g f g"

Output: gfg

Explanation: All the spaces including the leading ones have been removed.

```
str1=input("Enter any string ")
str2=''

for ch in str1:
    if ch !=' ':
        str2=str2+ch

print(str1)
print(str2)

# Write a program to find input number is prime or not

num=int(input("Enter any number ")) # 3
c=0
for i in range(1,num+1): # start=1,stop=4,step=1   1 2 3
    if num%i==0:
        c=c+1

if c==2:
    print(f'{num} is prime')
else:
    print(f'{num} is not prime')
```

Output

Enter any number 9
9 is not prime

Enter any number 5
5 is prime

Nested Loops

Defining looping statement inside looping statement is called nested looping statements.

1. Nested while
2. Nested for

Example:

Write a program to print tables from 1 to 10

```
for num in range(1,11): # Outer Loop --> 1 2 3 4 5 6 7 8 9 10
    for i in range(1,11): # Inner Loop
        p=num*i
        print(f'{num}x{i}={p}')
    input()
```

Output:

1x1=1
1x2=2
1x3=3
1x4=4
1x5=5
1x6=6
1x7=7
1x8=8
1x9=9
1x10=10

2x1=2
2x2=4
2x3=6
2x4=8
2x5=10
2x6=12
2x7=14
2x8=16
2x9=18
2x10=20

3x1=3
3x2=6
3x3=9
3x4=12
3x5=15
3x6=18
3x7=21
3x8=24

3x9=27
3x10=30

Write a program to generate factorials of all numbers from 1 to N

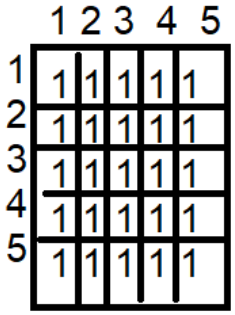
4
1 -- 1
2 -- 2
3 -- 6
4 -- 24

```
N=int(input("Enter the value of N")) # 4
for num in range(1,N+1): # start=1,stop=5,step=1 --> 1 2 3 4
    fact=1
    for i in range(1,num+1): # start=1,stop=5,step=1 1 2 3
        fact=fact*i
    print(f'{num}-->{fact}')
```

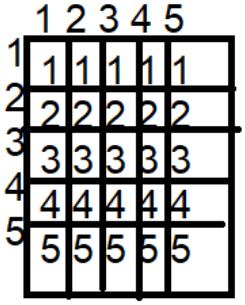
Output

1-->1
2-->2
3-->6
4-->24

Pattern Programs




```
for r in range(1,6): # 1 2 3 4 5
    for c in range(1,6): # 1 2 3 4 5
        print("1",end=' ')
    print()
```




```
for r in range(1,6): # 1 2 3 4 5
    for c in range(1,6): # 1 2 3 4 5
        print(r,end=' ')
    print()
```