Python Programming - 2301CS404

Lab - 3

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for and while loop

01) WAP to print 1 to 10.

In [4]:
```
# for loop
for i in range(1,11):
    print(i)

# while loop
# i=1
# while i<=10:
#     print(i)
#     i += 1
```

```
1
2
3
4
5
6
7
8
9
10
```

02) WAP to print 1 to n.

In [6]:
```
n = int(input("Enter the number : "))
for i in range(1,n+1):
    print(i)
```

```
1
2
3
4
5
```

03) WAP to print odd numbers between 1 to n.

In [8]:
```
n = int(input("Enter the number : "))
for i in range(1,n+1,2):
    print(i)
```

```
1
3
5
7
9
11
13
15
17
```

04) WAP to print numbers between two given numbers which is divisible by 2 but not divisible by 3.

In [9]:
```
start = int(input("Enter the starting number : "))
end = int(input("Enter the ending number : "))
for i in range(start,end):
    if (i % 2 == 0) and (i % 3 != 0) :
        print(i)
```

```
26
28
32
34
38
40
44
```

05) WAP to print sum of 1 to n numbers.

In [15]:
```
n = int(input("Enter the number : "))
sum = 0
for i in range(1,n+1):
    sum += i
print(sum)
```

```
55
```

06) WAP to print sum of series 1 + 4 + 9 + 16 + 25 + 36 + ...n.

In [16]:
```
n = int(input("Enter the number : "))
sum = 0
for i in range(1,n+1):
    sum += i**2
print(sum)
```

```
385
```

07) WAP to print sum of series 1 – 2 + 3 – 4 + 5 – 6 + 7 … n.

In [20]:
```
n = int(input("Enter the number : "))
sum = 0
for i in range(1,n+1):
    if (i%2==0):
        sum -= i
    else:
        sum += i
print(sum)
```

```
-5
```

08) WAP to print multiplication table of given number.

In [22]:
```
n = int(input("Enter the number : "))
for i in range(1,11):
    print(f"{n} * {i} = {n*i}")
```

```
21 * 1 = 21
21 * 2 = 42
21 * 3 = 63
21 * 4 = 84
21 * 5 = 105
21 * 6 = 126
21 * 7 = 147
21 * 8 = 168
21 * 9 = 189
21 * 10 = 210
```

09) WAP to find factorial of the given number.

In [24]:
```
n = int(input("Enter the number : "))
fac = 1
for i in range(1,n+1):
    fac *= i
print(f"factorial of {n} : {fac}")
```

```
factorial of 5 : 120
```

10) WAP to find factors of the given number.

In [25]:
```
n = int(input("Enter the number : "))
for i in range(1,n+1):
    if (n%i==0):
        print(i)
```

```
1
2
5
10
```

11) WAP to find whether the given number is prime or not.

In [69]:
```
n = int(input("Enter the number : "))
for i in range(2,(n//2)+1):
    if (n%i==0):
        print(f"{n} is not a Prime Number.")
        break
else:
    print(f"{n} is a Prime Number.")
```

```
4 is not a Prime Number.
```

12) WAP to print sum of digits of given number.

In [38]:
```
n = int(input("Enter the number : "))
sum = 0
while (n!=0):
    sum += int(n%10)
    n=n/10
print(f"sum : {sum}")
```

```
sum : 15
```

13) WAP to check whether the given number is palindrome or not

In [59]:
```
n = int(input("Enter the number : "))
temp = n
reverse = 0
while temp != 0:
    reverse = reverse * 10 + temp % 10
    temp = int(temp / 10) # n//
if (reverse == n):
    print(f"{n} is a Palindrome Number.")
else:
    print(f"{n} is Not a Palindrome Number.")
```

```
121 is a Palindrome Number.
```

14) WAP to print GCD of given two numbers.

In [6]:
```
n1 = int(input("Enter the first number : "))
n2 = int(input("Enter the second number : "))
gcd = 0
for i in range (1,(min(n1,n2))+1):
    if (n1%i==0) and (n2%i==0):
        gcd = i
print(f"GCD of {n1} and {n2} is = {gcd}")
```

```
GCD of 15 and 45 is = 15
```