Python Programming - 2301CS404

Lab - 3

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4B-448 8th batch

for and while loop

01) WAP to print 1 to 10.

In [5]:
```
for i in range(1,11):
    print(i)
```

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

02) WAP to print 1 to n.

In [9]:
```
n= int(input("Enter the value of n: "))
for i in range(1,n + 1):
    print(i);
```

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

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

In [13]:
```
n= int(input("Enter the value of n: "))
for i in range(1,n + 1):
    if i%2!=0:
        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 [61]:
```
N1= int(input("Enter the starting number: "))
N2= int(input("Enter the ending number: "))

for i in range(N1,N2+1):
    if i % 2 == 0 and i % 3 != 0:
        print(i)
```

```
10
14
```

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

In [29]:
```
n= int(input("Enter the value of n: "))

sum = 0
for i in range(1,n+1):
    sum += i

print (f"The sum of numbers from 1 to {n} is: {sum}")
```

```
The sum of numbers from 1 to 5 is: 15
```

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

In [31]:
```
R= int(input("Enter the value of n: "))

totalsum = 0
for i in range(1,R + 1):
    totalsum += i ** 2
print(f"The sum of the series 1 + 4+ 9 + 16 +...+ {n}^2 is: {totalsum}")
```

```
The sum of the series 1 + 4+ 9 + 16 +...+ 5^2 is: 55
```

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

In [43]:
```
n= int(input("Enter the value of n: "))
sum = 0
for i in range(1,n+1):
    if i % 2 == 0 :
        sum -= i
    else :
        sum += i
print(f"The sum of the series 1 -2 + 3 - 4 +....+ {n} is:{sum}")
```

```
The sum of the series 1 -2 + 3 - 4 +....+ 5 is:3
```

08) WAP to print multiplication table of given number.

In [45]:
```
num=int(input("Enter the number to print the multiplication table: "))
print(f"multiplication table of {num} : ")
for i in range (1,11):
    print(f"{num} x {i} = {num * i }")
```

```
multiplication table of 6 :
6 x 1 = 6
6 x 2 = 12
6 x 3 = 18
6 x 4 = 24
6 x 5 = 30
6 x 6 = 36
6 x 7 = 42
6 x 8 = 48
6 x 9 = 54
6 x 10 = 60
```

09) WAP to find factorial of the given number.

In [47]:
```
num = int(input("Enter a number to find its factorial: "))
factorial = 1
if num < 0:
    print("Factorial is not defined for negative numbers.")
elif num == 0 or num == 1:
    print(f"The factorial of {num} is: 1")
else:
    for i in range(1, num + 1):
        factorial *= i
    print(f"The factorial of {num} is: {factorial}")
```

```
The factorial of 6 is: 720
```

10) WAP to find factors of the given number.

In [55]:
```
num = int(input("Enter a number to find its factors: "))

print(f"Factors of {num} are:")
for i in range(1, num + 1):
    if num % i == 0:
        print(i)
```

```
Factors of 18 are:
1
2
3
6
9
18
```

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

In [59]:
```
num = int(input("Enter a number to check if it's prime: "))

if num < 2:
    print(f"{num} is not a prime number.")
else:
    is_prime = True
    for i in range(2, int(num ** 0.5) + 1):
        if num % i == 0:
            is_prime = False
            break

    if is_prime:
        print(f"{num} is a prime number.")
    else:
        print(f"{num} is not a prime number.")
```

```
6 is not a prime number.
```

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

In [63]:
```
num = int(input("Enter a number to find the sum of its digits: "))

sum_of_digits = 0
while num > 0:
    sum_of_digits += num % 10
    num //= 10

print(f"The sum of the digits is: {sum_of_digits}")
```

```
The sum of the digits is: 12
```

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

In [67]:
```
num = input("Enter a number to check if it's a palindrome: ")

if num == num[::-1]:
    print(f"{num} is a palindrome.")
else:
    print(f"{num} is not a palindrome.")
```

```
121 is a palindrome.
```

14) WAP to print GCD of given two numbers.

In [77]:
```
a = int(input("Enter the first number: "))
b = int(input("Enter the second number: "))

gcd = 0
for i in range (a,b+1):
    if a % i == 0 and b % i == 0:
        gcd = i
```

```
print(f"The GCD of {a} and {b} is: {gcd}")
```

```
The GCD of 10 and 15 is: 0
```

In [ ]: