Python Programming - 2301CS404

Lab - 3

for and while loop¶ 01) WAP to print 1 to 10.¶ In [3]:

```
print("Using While Loop")
i = 1
while i <= 10:
    print(i)
    i = i + 1

print("-------------")

print("Using For Loop")
for x in range(1,11):
  print(x)
```

```
Using While Loop
1
2
3
4
5
6
7
8
9
10
-------------
Using For Loop
1
2
3
4
5
6
7
8
9
10
```

02) WAP to print 1 to n.¶ In [6]:

```
n = int(input("Enter number :"))

for i in range(1,n + 1):
  print(i)
```

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

03) WAP to print odd numbers between 1 to n.¶ In [7]:

```
n = int(input("Enter number :"))

for i in range (1, n + 1, 2):
    print(i)
```

```
Enter number :10
1
3
```

```
5
7
9
```

04) WAP to print numbers between two given numbers which is divisible by 2 but not divisible by 3.¶ In [8]:

```
a = int(input("Enter number :"))
b = int(input("Enter number :"))

for i in range (a, b + 1):
    if i % 2 == 0 and i % 3 == 0:
        print(i)
```

```
Enter number :10
Enter number :20
12
18
```

05) WAP to print sum of 1 to n numbers.¶ In [9]:

```
n = int(input("Enter Number :"))
sum = 0
for i in range(1, n + 1):
    sum = sum + i
print("Sum is :",sum)
```

```
Enter Number :10
Sum is : 55
```

06) WAP to print sum of series 1 + 4 + 9 + 16 + 25 + 36 + ...n.¶ In [12]:

```
n = int(input("Enter Number :"))
sum = 0

for i in range(1, n + 1):
    sum += i * i
print("Sum of Series is :",sum)
```

```
Enter Number :2
Sum of Series is : 5
```

07) WAP to print sum of series 1 – 2 + 3 – 4 + 5 – 6 + 7 ... n.¶ In [13]:

```
n = int(input("Enter Number :"))
sum = 0

for i in range(1, n + 1):
    if i % 2 == 0:
        sum -= i
    else:
        sum += i
print("Sum of series 1 – 2 + 3 – 4 + 5 – 6 + 7 ... n :",sum)
```

```
Enter Number :5
Sum of series 1 – 2 + 3 – 4 + 5 – 6 + 7 ... n : 3
```

08) WAP to print multiplication table of given number.¶ In [14]:

```
n = int(input("Enter Number :"))

for i in range(1, 11):
    print(n, "*" ,i , "=" , (n * i))
```

```
Enter Number :2
2 * 1 = 2
2 * 2 = 4
2 * 3 = 6
2 * 4 = 8
2 * 5 = 10
2 * 6 = 12
```

```
2 * 7 = 14
2 * 8 = 16
2 * 9 = 18
2 * 10 = 20
```

09) WAP to find factorial of the given number.¶ In [17]:

```
n = int(input("Enter Number :"))
fact = 1

for i in range(1, n + 1):
    fact = fact * i
print("Factorial is :",fact)
```

```
Enter Number :5
Factorial is : 120
```

10) WAP to find factors of the given number.¶ In [20]:

```
n = int(input("Enter Number :"))
for i in range(1, n + 1):
    if n % i == 0:
        print(i)
```

```
Enter Number :10
1
2
5
10
```

11) WAP to find whether the given number is prime or not.¶ In [22]:

```
n = int(input("Enter Number :"))
count = 0

for i in range(2,n):
    if n % i == 0:
        count += 1
if count == 0:
    print("Number is Prime")
else:
    print("Number is not Prime")
```

```
Enter Number :2
Number is Prime
```

12) WAP to print sum of digits of given number.¶ In [24]:

```
n = int(input("Enter Number :"))
sum = 0

while n != 0:
    rev = n % 10
    sum += rev
    n = int( n / 10 )
print("Sum of Digits is :",sum)
```

```
Enter Number :555
Sum of Digits is : 15
```

13) WAP to check whether the given number is palindrome or not¶ In [26]:

```
n = int(input("Enter Number :"))
num = n
rev = 0

while n != 0:
    rem = n % 10
    rev = (rev * 10) + rem
    n //= 10
```

```
if num == rev:
    print("Number is Palindrome")
else:
    print("Number is not Palidrome")
```

```
Enter Number :121
Number is Palindrome
```

14) WAP to print GCD of given two numbers.¶ In [27]:

```
n1 = int(input("Enter Number :"))
n2 = int(input("Enter Number :"))

if n2 > n1:
    n1,n2 = n2,n1

while n2 != 0:
    remainder = n1 % n2
    n1 = n2
    n2 = remainder

print("GCD is :",n1)
```

```
Enter Number :2
Enter Number :4
GCD is : 2
```