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Python Programming - 2101CS405

Lab - 3

for and while loop

01) WAP to print 1 to 10

In [6]:

```
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 [10]:

```
n=50
for i in range(1,n):
    print(i)
```

```
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
```

03) WAP to print odd numbers between 1 to n

In [18]:

```
n=50
for i in range(1,n,2):
    print(i)
```

```
1
3
5
7
9
11
13
15
17
19
21
23
25
27
29
31
33
35
37
39
41
43
45
47
49
```

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

In [29]:

```
n=30
for i in range(1,n):
    if i%3==0:
        if i%2==0:
            print(i)
```

```
6
12
18
24
```

05) WAP to print sum of 1 to n numbers

In [61]:

```
n=10
sum=0
for i in range(1,n+1):
    sum=sum+i
print(sum)
```

```
55
```

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

In [1]:

```
n=4
sum=0
for i in range(n+1):
    sum=i*i+sum
print(sum)
```

```
30
```

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

In [90]:

```
n=50
for i in range(n):
    if n % 2 == 1:
        print(n + 1)/2


print(-n / 2)
```

```
-25.0
```

08) WAP to print multiplication table of given number.

In [16]:

```
n=int(input("Enter number You want to table read :"))
for i in range(1,11):
    print(n,"x",i,"=",n*i)
```

```
Enter number You want to table read :500
500 x 1 = 500
500 x 2 = 1000
500 x 3 = 1500
500 x 4 = 2000
500 x 5 = 2500
500 x 6 = 3000
500 x 7 = 3500
500 x 8 = 4000
500 x 9 = 4500
500 x 10 = 5000
```

09) WAP to find factorial of the given number

In [2]:

```
n1=int(input("Enter You want to find the Number Of factorial :"))
factorial=1
for i in range(1,n1+1):
    factorial=factorial*i
print(factorial)
```

```
Enter You want to find the Number Of factorial :5
120
```

10) WAP to find factors of the given number

In [4]:

```
n1=int(input("Enter you want to finf Factor Of Number:"))
for i in range(1,n1+1):
    if n1%i==0:
        print(i)
```

```
Enter you want to finf Factor Of Number:10
1
2
5
10
```

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

In [37]:

```
n1=int(input("Enter you Want to find Number is prime or not :"))
for i in range(n1+1):
    if 2%n1==0:
        print("Number Is Not Prime:")
        break
else:
    print("Number is Prime")
```

```
Enter you Want to find Number is prime or not :13
Number is Prime
```

12) WAP to print sum of digits of given number

In [60]:

```
n1=input("Enter you Number To Find Sum Of Number:")
sum=0
for i in n1:
    sum=sum+int(i)
print(sum)
```

```
Enter you Number To Find Sum Of Number:123
6
```

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

In [65]:

```
Num = int(input("Enter a value:"))
temp = Num
rev = 0
while(Num > 0):
    dig = Num % 10
    rev = rev * 10 + dig
    Num = Num // 10
if(temp == rev):
    print("This value is a palindrome Number!")
else:
    print("This value is not a palindrome Number!")
```

```
Enter a value:1221
This value is a palindrome Number!
```

01) WAP to check whether the given number is Armstrong or not.

In [68]:

```
num = int(input("Enter a number: "))
sum = 0
temp = num
while temp > 0:
   digit = temp % 10
   sum += digit ** 3
   temp //= 10
if num == sum:
   print(num,"is an Armstrong number")
else:
   print(num,"is not an Armstrong number")
```

```
Enter a number: 407
407 is an Armstrong number
```

02) WAP to find out prime numbers between given two numbers.

In [86]:

```
n1=int(input("Enter Your First Number:"))
n2=int(input("Enter Your SEcond Number:"))
print("print Number Between",n1,"and",n2,"are :")

for num in range(n1,n2+1):
    if num>1:
        for i in range(2,num):
            if num%i==0:
                break
        else:
            print(num)
```

```
Enter Your First Number:10
Enter Your SEcond Number:50
print Number Between 10 and 50 are :
11
13
17
19
23
29
31
37
41
43
47
```

03) WAP to calculate x^y without using any function.

In [92]:

```
n1=int(input("Enter Your Base Value :"))
n2=int(input("Enter Your Exponent Value : "))
result=1
while n2!=0:
    result *=n1
    n2-=1
print(str(result))
```

```
Enter Your Base Value :3
Enter Your Exponent Value : 4
81
```

04) WAP to check whether the given number is perfect or not.

[Sum of factors including 1 excluding number itself]

In [93]:

```
n1=int(input("Enter the number: "))
sum_v=0
for i in range(1,n1):
    if (n1%i==0):
        sum_v=sum_v+i
if(sum_v==n1):
    print("The entered number is a perfect number")
else:
    print("The entered number is not a perfect number")
```

```
Enter the number: 6
The entered number is a perfect number
```

05) WAP to find the sum of 1 + (1+2) + (1+2+3) + (1+2+3+4)+...+(1+2+3+4+....+n)

In [110]:

```
num = int(input("Enter Number : "))
sum = 0;
for i in range(1,num+1):
    for j in range(1,i+1):
        sum = sum + j
print(sum)
```

```
Enter Number : 10
220
```

06) WAP to print Multiplication Table up to n

In [106]:

```
number = int(input ("Enter the number of which the user wants to print the multiplication table: "))
print ("The Multiplication Table of: ", number)
for count in range(1, 11):
   print (number, 'x', count, '=', number * count)
```

```
Enter the number of which the user wants to print the multiplication table: 12
The Multiplication Table of:  12
12 x 1 = 12
12 x 2 = 24
12 x 3 = 36
12 x 4 = 48
12 x 5 = 60
12 x 6 = 72
12 x 7 = 84
12 x 8 = 96
12 x 9 = 108
12 x 10 = 120
```

In [ ]:

```

```