Darshan UNIVERSITY
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Python Programming - 2301CS404

Lab - 4

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01) WAP to print 1 to 10.

In [ ]:
```
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 [ ]:
```
number = int(input('Enter Number: '))

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

```
Enter Number: 10
1
2
3
4
5
6
7
8
9
10
```

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

In [ ]:
```
number = int(input('Enter Number: '))

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

```
Enter Number: 20
1
3
5
7
9
11
13
15
17
19
```

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

In [ ]:
```
lower = int(input('Enter Lower Range:'))
upper = int(input('Enter Upper Range:'))

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

```
Enter Lower Range:4
Enter Upper Range:12
4
8
10
```

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

In [ ]:
```
n = int(input('Enter Number:'))
sum = 0

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

print(sum)
```

```
Enter Number:10
55
```

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

In [ ]:
```
n = int(input('Enter Number:'))

sum = 0

for i in range(1, n+1):
  if i == n:
    print(i*i,end=' = ')
  else:
    print(i*i,end=' + ')
  sum += i*i

print(sum)
```

```
Enter Number:6
1 + 4 + 9 + 16 + 25 + 36 = 91
```

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

In [ ]:
```
n = int(input('Enter Number:'))
sum = 0

for i in range(1, n+1):
  if i%2 == 0:
    if i == n:
      print(i,end=' = ')
    else:
      print(i,end=' + ')
    sum -= i
  else:
    if i == n:
      print(i,end=' = ')
    else:
      print(i,end=' - ')
    sum += i
print(sum)
```

```
Enter Number:10
1-2+3-4+5-6+7-8+9-10=-5
```

08) WAP to print Multiplication Table of the given number.

In [ ]:
```
n = int(input('Enter Number: '))

for i in range(1,11):
  print(f'{n} * {i} = {n * i}')
```

```
Enter Number: 3
3 * 1 = 3
3 * 2 = 6
3 * 3 = 9
3 * 4 = 12
3 * 5 = 15
3 * 6 = 18
3 * 7 = 21
3 * 8 = 24
3 * 9 = 27
3 * 10 = 30
```

09) WAP to find Factorial of the given number.

In [ ]:
```
n = int(input('Enter Number: '))
factorial = 1

for i in range(1,n+1):
  factorial *= i
print(f'{n}! = {factorial}')
```

```
Enter Number: 5
5! = 120
```

10) WAP to print GCD of given two numbers.

In [ ]:
```
a = int(input('Enter first Number:'))
b = int(input('Enter second Number:'))

min = a if a<b else b

gcd = 1

for i in range(1,min+1):
  if (a%i == 0 and b%i == 0):
    gcd = i
print(f'GCD({a},{b}) = {gcd}')
```

```
Enter first Number:12
Enter second Number:18
GCD(12,18) = 6
```

11) WAP to find Factors of the given number.

In [ ]:
```
n = int(input('Enter Number: '))

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

```
Enter Number: 12
1
2
3
4
6
12
```

12) WAP to find whether the given number is Prime or not.

In [ ]:
```
n = int(input('Enter Number: '))
is_prime = True
for i in range(2,n-1):
  if(n%i == 0):
    is_prime = False
    break

if is_prime:
  print('Prime')
else:
  print('Not Prime')
```

```
Enter Number: 3
Prime
```

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

In [ ]:
```
n = int(input('Enter Number: '))
sum = 0
while n > 0:
  sum += n%10
  n //= 10
print(f'Sum = {sum}')
```

```
Enter Number: 123
Sum = 6
```

14) WAP to check whether the given number is Palindrome or not.

In [ ]:
```
n = int(input('Enter Number: '))
num = n
rev = 0
while n > 0:
  rev = rev*10 + n%10
  n //= 10

print('Palindrome' if rev == num else 'Not Palindrome')
```

```
Enter Number: 121
Palindrome
```

15) WAP to check whether the given number is an Armstrong Number or not.

In [ ]:
```
n = int(input('Enter Number: '))
num = n
digit = 0
sum = 0

while n > 0:
  digit += 1
  n //= 10
```

```
n = num

while n > 0:
  sum = sum + ((n%10)**digit)
  n //= 10

print('Armstrong' if sum == num else 'Not Armstrong')
```

```
Enter Number: 153
Armstrong
```

16) WAP to print all the perfect numbers between 1 to n.

In [ ]:
```
num = int(input('Enter Number: '))

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

```
Enter Number: 7
6
```