```
<a href='https://www.darshan.ac.in/'> <img
src='https://www.darshan.ac.in/Content/media/DU_Logo.svg'
width="250" height="300"/></a>
<pre>
<center><b><h1>Python Programming - 2101CS405</b></center>
<center><b><h1>Lab - 3</b></center>
<pre>
```

for and while loop

01) WAP to print 1 to 10

In [11]:
```python
for x in range(1,11):
    print(x);
```

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

02) WAP to print 1 to n

In [12]:
```python
num=int(input("Enter number :"));
for x in range(1,num+1):
    print(x);
```

```
Enter number :20
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
```

03) WAP to print odd numbers between 1 to n

```
In [14]: num=int(input("Enter Number"));
         for x in range(1,num+1):
             if x%2!=0:
                 print(x);
```

```
Enter Number20
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

```python
In [15]: num1=int(input("Enter Number 1:"));
         num2=int(input("Enter Number 2:"));
         for x in range(num1,num2):
             if x%2==0 and x%3!=0:
                 print(x);
```

```
Enter Number 1:10
Enter Number 2:90
10
14
16
20
22
26
28
32
34
38
40
44
46
50
52
56
58
62
64
68
70
74
76
80
82
86
88
```

05) WAP to print sum of 1 to n numbers

```python
In [20]: num=int(input("Enter Number :"));
         sum=0;
         for x in range(1,num+1):
             sum=(sum+x);
         print(sum);
```

```
Enter Number :5
15
```

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

In [23]:
```python
num=int(input("Enter Number :"));
sum=0;
for x in range(1,num+1):
    sum=sum+(x**2);
print(sum);
```

```
Enter Number :3
14
```

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

In [29]:
```python
num=int(input("Enter Number :"));
sum=0;
for x in range(1,num+1):
    if x%2!=0:
        sum=sum+x;
    else:
        sum=sum-x;
print(sum);
```

```
Enter Number :7
4
```

08) WAP to print multiplication table of given number.

In [31]:
```python
num=int(input("Enter Number :"));
for x in range(1,11):
    print(num,"*",x,"=",num*x);
```

```
Enter Number :23
23 * 1 = 23
23 * 2 = 46
23 * 3 = 69
23 * 4 = 92
23 * 5 = 115
23 * 6 = 138
23 * 7 = 161
23 * 8 = 184
23 * 9 = 207
23 * 10 = 230
```

09) WAP to find factorial of the given number

In [32]:
```python
num=int(input("Enter Number :"));
fac=1;
for x in range(1,num+1):
    fac=fac*x;
print("factorial of",num,"=",fac);
```

```
Enter Number :5
factorial of 5 = 120
```

10) WAP to find factors of the given number

In [34]:
```python
num=int(input("Enter number :"));
for x in range(1,num+1):
    if num%x==0:
        print(x);
```

```
Enter number :20
1
2
4
5
10
20
```

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

In [41]:
```python
num=int(input("Enter number :"));
isPrime=True;
for x in range(2,num-1):
    if num%x==0:
        isPrime=False;
        break;
if isPrime:
    print(num,"is prime number.");
else:
    print(num,"is not prime number.");
```

```
Enter number :13
13 is prime number.
```

12) WAP to print sum of digits of given number

In [43]:
```python
num=int(input("Enter number :"));
sum=0;
while num>0:
    digit=num%10;
    sum=sum+digit;
    num=int(num/10);
print(sum);
```

```
Enter number :1234
10
```

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

In [ ]:
```python
n=int(input("Enter number:"));
temp=n;
rev=0;
while(n>0):
    dig=n%10;
    rev=rev*10+dig;
    n=n//10;
if(temp==rev):
    print("The number is a palindrome!")
else:
    print("The number isn't a palindrome!")
```

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

In [60]:
```python
num=int(input("Enter number :"));
digit=1;
temp=num;
sum=0;
while(num>0):
    digit=num%10;
    sum=int(sum+int(digit**3));
    num=int(num/10);
if sum==temp:
    print(temp,"Armstrong number");
else:
    print(temp,"not armstrong number");
```

```
Enter number :153
153 Armstrong number
```

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

In [71]:
```python
num1=int(input("Enter Number :"));
num2=int(input("Enter Number :"));
isPrime=True;
for x in range(num1,num2):
    value=num1;
    for y in range(2,value-1):
        if value%y==0:
            isPrime=False;
            break;
    if isPrime:
        print(value);
    else:
        isPrime=True;
```

```
Enter Number :10
Enter Number :30
```

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

In [ ]:

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

[Sum of factors including 1 excluding number itself]

In [ ]:

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

In [ ]:

06) WAP to print Multiplication Table up to n

In [ ]: