(https://www.darshan.ac.in/)

Python Programming - 2101CS405

Lab - 3

for and while loop

01) WAP to print 1 to 10

In [2]:
```
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 [3]:
```
n=int(input("enter value of n"))
for i in range(1,n+1):
    print(i)
```

```
enter value of n13
1
2
3
4
5
6
7
8
9
10
11
12
13
```

03) WAP to print odd numbers between 1 to n

In [5]:
```
n=int(input("enter value of n"))
for i in range(1,n+1):
    if(i%2 != 0):
        print(i)
```

```
enter value of n15
1
3
5
7
9
11
13
15
```

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

In [2]:
```
n=int(input("enter value "))
m=int(input("enter value "))
for i in range(n,m+1):
    if i%2==0 and i%3!=0:
        print(i)
```

```
enter value 2
enter value 15
2
4
8
10
14
```

05) WAP to print sum of 1 to n numbers

In [4]:
```
n=int(input("enter value "))
sum=0
for i in range(1,n+1):
    sum =sum+i
print(sum)
```

```
enter value 10
55
```

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

In [6]:
```
n=int(input("enter value "))
sum=0
for i in range(1,n+1):
    sum =sum+i*i
print(sum)
```

```
enter value 3
14
```

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

In [8]:
```
n=int(input("enter value "))
sum=0
for i in range(1,n+1):
    if i%2==0:
        sum =sum-i
    else:
        sum=sum+i
print(sum)
```

```
enter value 3
2
```

08) WAP to print multiplication table of given number.

In [11]:
```
n=int(input("enter value "))
sum=1
for i in range(1,11):
    sum=n*i
    print(n,"*",i,"=",sum)
```

```
enter value 4
4 * 1 = 4
4 * 2 = 8
4 * 3 = 12
4 * 4 = 16
4 * 5 = 20
4 * 6 = 24
4 * 7 = 28
4 * 8 = 32
4 * 9 = 36
4 * 10 = 40
```

09) WAP to find factorial of the given number

In [15]:
```
n=int(input("enter value "))
fac=1
while(n!=0):
    fac*=n
    n-=1
print(fac)
```

```
enter value 5
120
```

10) WAP to find factors of the given number

In [2]:
```
n=int(input("enter value "))
no=1
while(no<n+1):
    if n%no==0:
        print(no)
    no+=1
```

```
enter value 6
1
2
3
6
7
```

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

In [6]:
```
n=int(input("enter value "))
no=2
flag=0
while((n/2)+1>no):
    if n%no!=0:
        flag=1
        break
    no+=1
if flag!=1:
    print("number is not-prime")
else:
    print("number is prime")
```

```
enter value 13
number is prime
```

12) WAP to print sum of digits of given number

In [1]:
```
n=int(input("enter value "))
sum=0
while(n>0):
    no=n%10
    sum+=no%10
    n=int(n/10)
print(sum)
```

```
enter value 143
8
```

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

In [4]:
```
n=int(input("enter value "))
sum=0
temp=n
while(n>0):
    sum=sum*10+n%10
    n=int(n/10)
if temp==sum:
    print("number is palindrom")
else:
    print("number is not-palindrom")
```

```
enter value 121
number is palindrom
```

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

In [8]:
```
n=int(input("enter value "))
sum=0
count=0
temp=0
while(n>0):
    rem=(n%10)
    n=int(n/10)
    count+=1
while(n>0):
    sum+=(n%10)**count
    n=int(n/10)
temp=n**count
if temp==sum:
    print("number is armstrong")
else:
    print("number is not-armstrong")
```

```
enter value 9474
number is armstrong
```

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

In [1]:
```
n1=int(input("enter value "))
n2=int(input("enter value"))
flag=0
while(n1<=n2):
    num=2
    while(n1//2+1>=num):
        if n1%num==0:
            num= -1
            break
        num+=1
    if num!=-1:
        print(n1)
    n1+=1
```

```
enter value 1
enter value10
1
3
5
7
```

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

In [3]:
```
x=int(input("enter value"))
y=int(input("enter value of power"))
sum=1
if y<=0:
    print("invalid input")
while(y>0):
    sum=sum*x
    y-=1
print(sum)
```

```
enter value2
enter value of power3
8
```

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

[Sum of factors including 1 excluding number itself]

In [3]:
```
n=int(input("enter value "))
no=1
sum=0
temp=n
while(no<n+1):
    if n%no==0:
        sum+=no
    no+=1
if temp==sum:
    print("perfect")
else:
    print("not-perfect")
```

```
enter value 496
not-perfect
```

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

In [1]:
```
n=int(input("enter value"))
temp=n
ten=0
s=0
while(temp>0):
    n=temp
    while(n>0):
        s+=n
        n-=1
    ten+=s
    s=0
    temp-=1
print(ten)
```

```
enter value4
20
```

06) WAP to print Multiplication Table up to n

In [ ]:
```
n=int(input("enter value "))
m=0
temp=1
while(n>0):
    if temp<11:
        m=n*temp
        print(n,"*",temp,"=",m)
        temp+=1
```

```
enter value 5
5 * 1 = 5
5 * 2 = 10
5 * 3 = 15
5 * 4 = 20
5 * 5 = 25
5 * 6 = 30
5 * 7 = 35
5 * 8 = 40
5 * 9 = 45
5 * 10 = 50
```

In [ ]: