**Full Stack Web Development using Python**

**Assignment – 11 : loop**

1. Write a python script to calculate sum of first N natural numbers

i=1

sum=0

n=int(input("Enter a number"))

while i<=n:

sum+=i

i+=1

print('Sum = ',sum)

1. Write a python script to calculate sum of squares of first N natural numbers

i=1

sum=0

n=int(input("Enter a number"))

while i<=n:

sum+=i\*\*2

i+=1

print('Sum = ',sum)

1. Write a python script to calculate sum of cubes of first N natural numbers

i=1

sum=0

n=int(input("Enter a number"))

while i<=n:

sum+=i\*\*3

i+=1

print('Sum = ',sum)

1. Write a python script to calculate sum of first N odd natural numbers

i=1

sum=0

n=int(input("Enter a number"))

while i<=n\*2:

sum+=i

i+=2

print('Sum = ',sum)

1. Write a python script to calculate sum of first N even natural numbers

i=2

sum=0

n=int(input("Enter a number"))

while i<=n\*2:

sum+=n\*2+2-i

i+=2

print('Sum = ',sum)

1. Write a python script to calculate factorial of a given number

i=1

fact=1

n=int(input("Enter a number"))

while i<=n:

fact=fact\*(n+1-i)

i+=1

print('Factorial = ',fact)

1. Write a python script to count digits in a given number

count=0

n=int(input("Enter a number"))

while n:

n=int(n/10)

count+=1

print("Digits = ",count)

1. Write a python script to calculate sum of digits of a given number

**Program :**

sum=0

n=int(input("Enter a number"))

while n:

sum+=int(n%10)

n=int(n/10)

print("sum of digis =",sum)

1. Write a python script to print binary equivalent of a given decimal number. (do not use bin() method)

**Program :**

n=int(input("Enter a number"))

bin=0

i=0

while n>0:

bin+=((n%2)\*(10\*\*i))

n=int(n/2)

i+=1

print("binary Equivalent is 0b{a}".format(a=bin))

1. Write a python script to print the octal equivalent of a given decimal number. (do not use oct() method)

**Program :**

n=int(input("Enter a number"))

oct=0

i=0

while n>0:

oct+=((n%8)\*(10\*\*i))

n=int(n/8)

i+=1

print("Octal Equivalent is 0o{a}".format(a=oct))