CHAPTER- 3 LOOPS

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# Write a function to print the range of natural number in forward direction and backward direction.

Forward (enter a= 10 and b=20)

def forward(a,b):

if(a<b):

for i in range(a,b+1):

print i

else:

print("enter correct numbers")

forward(10,20)

Backward (enter a= 20 and b=10)

def backward(a,b):

if(a>b):

for i in range(a,b-1,-1):

print i

else:

print("enter correct numbers")

backward(20,10)

# Write a function to find the sum of even number from n to m where N<M

def sum(n,m):

if n<m:

if(n%2==0):

s = 0

for i in range(n,m+1):

s = s + i

print s

else:

print("try with different values")

sum(4,6)

# Check whether entered number is prime or not

s = 0

num = int(raw\_input("enter number to be checked"))

if num > 1:

for i in range(2, num):

if (num % i) == 0:

print(number, "is not a prime number")

break

else:

print(num, "is a prime number")

else:

print("1 is not a prime number")

# Program to enter a number and print all divisors of the number

num = int(raw\_input("enter an integer"))

div = []

for i in range(1,num+1):

if ( num % i == 0):

div.append(i)

print div

# Function to print factorial of a number

def factorial(num):

fact = 1

if num < 0:

print(" Factorial does not exist for negative numbers")

elif num == 0:

print("The factorial of 0 is 1")

else:

for i in range(1,num + 1):

fact = fact\*i

print("The factorial of",num,"is",fact)

factorial(7)

6. Program to find first n prime numbers

num =int(input("Enter upper limit: "))

for a in range(2,num+1):

m=0

for i in range(2,a//2+1):

if(a%i==0):

m += 1

if(m<=0):

print(a)

# 7. Program to find the sum of digits of a number

num = int(input("enter the number"))

Sum = 0

while(num > 0):

c = num % 10

Sum = Sum + c

num = num //10

print("\n Sum of the digits of Given Number = %d" %Sum)

# 8. Program to find the reverse of a number

num = int(input("Please Enter any Number: "))

rev = 0

while(num > 0):

c = num %10

rev = (rev \*10) + c

num = num //10

print("\n Reverse of entered number is = %d" %rev)

# 9. Find range of Prime numbers from n to m.(n<m)

n = int(input("Enter upper limit: "))

m = int(input("Enter lower limit: "))

for a in range(n,m+1):

m=0

for i in range(2,a//2+1):

if(a%i==0):

m += 1

if(m<=0):

print(a)

# 10. Program to check whether the given number is a Harshad Number

def check( n ) :

sum = 0

c = n

while c > 0 :

sum = sum + c % 10

c = c /10

return n % sum == 0

check(12)