**PYTHON PROGRAM 1:**

**Python Program for Sieve of Eratosthenes**

def SieveOfEratosthenes(n):

prime = [True for i in range(n + 1)]

p = 2

while (p \* p <= n):

if (prime[p] == True):

for i in range(p \* 2, n + 1, p):

prime[i] = False

p += 1

prime[0]= False

prime[1]= False

for p in range(n + 1):

if prime[p]:

print p,

if \_\_name\_\_=='\_\_main\_\_':

n = 30

print "Following are the prime numbers smaller",

print "than or equal to", n

SieveOfEratosthenes(n)

**OUTPUT:**

