**Homework#3 of Introduction to Programming**

**Q.no-1,Solution;**

def fact(n):

res=1

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

res=res\*i

return res

print(fact(3))

def approx\_e(iter):

lst=[]

for i in range(0, iter):

if i==0:

lst.append(1)

continue

lst.append(1/fact(i))

print(lst)

result=sum(lst)

print(sum(lst))

approx\_e(10)

**Qno2.Solution;**

import math

def perfect\_sq():

ar = [49, 8, 2, 1, 102]

print("The original array is :: ", ar)

p = [i for i in ar if (math.sqrt(i) == math.floor(math.sqrt(i)))]

print("The elements that were perfect squares from the above array are :: ", p )

perfect\_sq()

**Qno.3-Solution;**

def add\_this\_many(x,el,lst):

rep=0

for i in lst:

if x==i:

rep +=1

print(rep)

for i in range(rep):

lst.append(el)

return lst

add\_this\_many(1,5,[2,4,2,1,1,1])