**Experiment No.05**

import numpy as np

n=int(input("enter number of data points="))

x=np.zeros((n))

y=np.zeros((n))

print("enter data for x and y:")

for i in range(n):

x[i]=float(input("x[%d]="%i))

y[i]=float(input("y[%d]="%i))

xp=float(input("enter interpolation point:"))

yp=0

for i in range(n):

p=1

for j in range(n):

if i!=j:

p=p\*(xp-x[j]/(x[i]-x[j]))

yp=yp+p\*y[i]

print("xr=%f yr=%f"%(xp,yp))

