% Name : Mokshada Pravin Toke

%Roll no : 72

n=input('Enter the no.of elements n:');

for i=1:n

x(i)=input('Enter the value of x :');

y(i)=input('Enter the value of y :');

end

xg=input('Enter the value of xg :');

yg=0;

for j=1:n

nu=1;

de=1;

for i=1:n

if(i~=j)

nu=nu\*(xg-x(i));

de=de\*(x(j)-x(i));

end

end

l(j)=nu/de;

fprintf('\n L%f=%f',j,l(j));

yg=yg+l(j)\*y(j);

end

fprintf('The final value of yg %f',yg);

Output

NSM10\_72

Enter the no.of elements n:

4

Enter the value of x :

0

Enter the value of y :

2

Enter the value of x :

1

Enter the value of y :

3

Enter the value of x :

2

Enter the value of y :

12

Enter the value of x :

5

Enter the value of y :

147

Enter the value of xg :

1.5

L1.000000=-0.087500

L2.000000=0.656250

L3.000000=0.437500

L4.000000=-0.006250

The final value of yg 6.125000