//program for Lagranges method.

//Batch=s1

//Roll no=162005

//Date 18-3-17

#include<stdio.h>

#include<math.h>

#include<stdlib.h>

void main()

{

double x[10],y[10],l[10],xr,yr,sum;

int i,n,k;

printf("xr=");

scanf("%lf",&xr);

printf("enter the number data points");

scanf("%d",&n);

for(i=0;i<n;i++)

{

printf("x[%d]=",i);

scanf("%lf",&x[i]);

printf("y[%d]=",i);

scanf("%lf",&y[i]);

}

printf("enter xr=");

scanf("%lf",&xr);

for(k=0;k<n;k++)

{

l[k]=1;

for(i=0;i<n;i++)

{

if(i==k)

{

continue;

}

l[k]=l[k]\*(xr-x[i])/(x[k]-x[i]);

}

}

yr=0;

for(i=0;i<n;i++)

{

yr=yr+(l[i]\*y[i]);

printf("value of yr=%lf",yr);

}

}

RESULT-

xr=3.5

enter the number data points4

x[0]=1

y[0]=3.5

x[1]=2

y[1]=-5

x[2]=3

y[2]=0

x[3]=4

y[3]=24

enter xr=3.5

value of yr=0.218750value of yr=1.781250value of yr=1.781250value of yr=9.281250

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Process exited after 82.35 seconds with return value 4

Press any key to continue . . .