/\*EULAR'S MODIFIED METHOD\*/

#include<stdio.h>

#include<math.h>

#define F(x,y) (x)\*(x)+(y)

int main()

{

double y0,x0,y1,x1,y1\_0,a,n,h,f,f1;

int j,count,flag;

printf("\nenter the value of x0: ");

scanf("%1f",&x0);

printf("\nenter the value of y0: ");

scanf("%1f",&y0);

printf("\nenter the value of h: ");

scanf("%1f",&h);

printf("\nenter the value of last point: ");

scanf("%1f",&n);

for(x1=x0+h,j=1;x1<=n+h;x1=x1+h,j++)

{

count=0;

flag=0;

f=F(x0,y0);

y1\_0=y0+(h+f);

printf("\n\n\*\* y%d=%.31f \*\*",j,y1\_0);

do

{

count++;

f=F(x0,y0);

f1=F(x1,y1\_0);

y1=y0+h/2\*(f+f1);

printf("\n\n\*\* x=%.31f=>y%d\_%d=%.31f \*\*",x1,j,count,y1);

if(fabs(y1-y1\_0)<0.00001)

{

printf("\n\n\n\n \*\*\*\* y%d=.31f \*\*\*\*\n\n",j,y1);

flag=1;

}

else

y1\_0=y1;

}while(flag!=1);

y0=y1;

}

}

