/\*eular's modified theorem\*/

#include<stdio.h>

#include<math.h>

#include<string.h>

Float fun(float,float);

int main()

{

Int I,j,c;

Float x[100],y[100],h,m[100],m1,m2,a,s[100],w;

Printf(“\n C program for Modified Euler Method \n\n”);

Printf(“ Enter the initial value of x:”);

Scanf(“%f”,&x[0]);

Printf(“\n Enter the value of increment h:”);

Scanf(“%f”,&h);

Printf(“\n Enter the final value of x:”);

Scanf(“%f”,&a);

Printf(“\n Enter the initial value of the variable y :”);

Scanf(“%f”,&y[0]);

S[0]=y[0];

For(i=1;x[i-1]<a;i++)

{

W=100.0;

X[i]= x[i-1]+h;

M[i]=fun(x[i-1],y[i-1]);

C=0;

While(w>0.0001)

{

M1=fun(x[i],s[c]);

M2=(m[i]+m1)/2;

S[c+1]=y[i-1]+m2\*h;

W=s[c]-s[c+1];

W=fabs(w);

C=c+1;

}

Y[i]=s[c];

}

Printf(“\n\n The respective values of x and y are\n x \t y\n\n”);

For(j=0;j<I;j++)

{

Printf(“ %f\t%f”,x[j],y[j]);

Printf(“\n”);

}

}

Float fun(float a,float b)

{

Float c;

C=a\*a+b;

Return c;

}