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#include<stdio.h>

#include<math.h>

#include<string.h>

Float fun(float,float);

int main()
{
    Int l,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;

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        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<l;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;

}

```