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#include<stdio.h>
#include<conio.h>

float f(float);

void main()
{
    static float y[30],x[30];
    float a,b,h;
    double ISC,sum;
    int n,i,m;

    clrscr();
    printf("*****THIS PROGRAM IMPLEMENTS simpson's one third
RULE*****\n\n");

    /* Taking inputs */
    printf("Enter the value of a = ");
    scanf("%f",&a);
    printf("Enter the value of b = ");
    scanf("%f",&b);
    printf("Enter the number of intervals = ");
    scanf("%d",&n);
    m = 2*n;
    /* Calculate the data points */
    h = (b - a)/m;    //length of the interval

    for(i=0;i<=m;i++)
    {
        x[i] = a + i*h;
        y[i] = f(x[i]);
    }

    /* Calculate ISC */
    sum = y[0] + y[m];    // sum of first term and last term
    for(i=1;i<m;i+=2) sum = sum + 4 * y[i]; //sum of odd term
    for(i=2;i<m;i+=2) sum = sum + 2 * y[i]; //sum of even terms
    ISC = (h/3)*sum;

    /*print result */
    printf("\n\nThe integration value ISC = %lf",ISC);
    getch();
}

float f(float x)
{
    return(4*x - 3*x*x);
}

```