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/*
A program to find out the trajectory of the derivative of sin (x).
This program is created by Mohammad Sazzad Hossain.
*/

# include <iostream.h>
# include <math.h>
# include <stdio.h>


int main (){
float ini = 0, fin = 0, interval = .01;
float derivative, pi, real;
FILE *result;

result = fopen ("\\result.txt","w");
pi = 4 * atan (1);

do {
derivative = (sin (ini + interval) - sin (ini)) / interval;
real = cos (ini);
cout << derivative << endl;
fprintf (result, "%f \t %f \t %f \n", ini, derivative, real);

ini += interval;
}while (ini <= 2 * pi);

fclose (result);
return 0;
}
```