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1  #include <iostream>
2  #include <string>
3  #include <cmath>
4  #include <ctime>
5  #include <cstdlib>
6
7  using namespace std;
8
9  int main()
10 {
11     srand(time(0));
12     bool continuar = true;
13
14     while (continuar) {
15         cout << "Escriba por favor las coordenadas de dos puntos (x ; y) de dos funciones lineales para
determinar en que punto se cortan" << endl;
16         int Ax; int Ay; int Bx; int By; int Cx; int Cy; int Dx; int Dy;
17         string pc;
18         cout << "Para el segmento AB:" << endl << "A: " ;
19         cin >> Ax >> pc >> Ay;
20         while (pc!=";"){
21             cout << "RECUERDE: Debe colocar los puntos de la forma (x ; y)" << endl;
22             cout << "A: ";
23             cin >> Ax >> pc >> Ay;
24         }
25         cout << "B: " ;
26         cin >> Bx >> pc >> By;
27         while (pc!=";"){
28             cout << "RECUERDE: Debe colocar los puntos de la forma (x ; y)" << endl ;
29             cout << "B: " ;
30             cin >> Bx >> pc >> By;
31         }
32         cout << "Para el segmento CD:" << endl;
33         cout << "C: " ;
34         cin >> Cx >> pc >> Cy;
35         while (pc!=";"){
36             cout << "RECUERDE: Debe colocar los puntos de la forma (x ; y)" << endl << "C: ";
37             cin >> Cx >> pc >> Cy;
38         }
39         cout << "D: " ;
40         cin >> Dx >> pc >> Dy;
41         while (pc!=";"){
42             cout << "RECUERDE: Debe colocar los puntos de la forma (x ; y)" << endl << "D: ";
43             cin >> Dx >> pc >> Dy;
44         }
45         cout << "Para los segmentos: AB(" << Ax << ";" << Ay << ")( " << Bx << ";" << By << ")" << " y CD(" <<
Cx << ";" << Cy << ")( " << Dx << ";" << Dy << ")" << endl;
46         double pendAB = (Ay-By)/(Ax-Bx);
47         double pendCD = (Cy-Dy)/(Cx-Dx);
48         double movyAB = Ay-(Ax*pendAB) ;
49         double movyCD = Cy-(Cx*pendCD) ;
50         if (movyAB==movyCD and pendAB==pendCD){
51             if (pendAB==0) {
52                 cout << "Los puntos A, B , C y D perenecen a la misma funcion: f(x)=" << movyAB << endl;
53             }
54             else if (pendAB==0 and movyAB==0){
55                 cout << "puntos A, B , C y D perenecen a la misma funcion: f(x)=0" << endl;
56             }
57             else if (movyAB == 0){
58                 cout << "puntos A, B , C y D perenecen a la misma funcion: f(x)=" << pendAB << "x" << endl
;
59             }
60             else {
61                 cout << "Los puntos A, B , C y D perenecen a la misma funcion: f(x)=" << pendAB << "x+"
<< movyAB << endl;
62             }

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63         cout << "Decea continuar si/no: " ;
64         string sal;
65         cin >> sal;
66         while (sal!="si" and sal!="no"){
67             cout << "Decea continuar si/no: " ;
68             cin >> sal;
69         }
70         if (sal=="no"){
71             return 0 ;
72         }
73     }
74     else if ( movyAB!=movyCD and pendAB==pendCD ){
75         cout << "Las funciones no se cortan" << endl;
76         cout << "Decea continuar si/no: " ;
77         string sal;
78         cin >> sal;
79         while (sal!="si" and sal!="no"){
80             cout << "Decea continuar si/no: " ;
81             cin >> sal;
82         }
83         if (sal=="no"){
84             return 0;
85         }
86     }
87     else {
88         cout << "AB con funcion: " << "f(x)=" << pendAB << "x+" << movyAB << endl;
89         cout << "CD con funcion: " << "g(x)=" << pendCD << "x+" << movyCD << endl;
90         cout << "Las funciones se cortan en el punto P(" << (movyCD-movyAB)/(pendAB-pendCD) << ";" << (
pendAB*((movyCD-movyAB)/(pendAB-pendCD))+movyAB << ")" << endl;
91     }
92     cout << "Decea continuar si/no: " ;
93     string sal;
94     cin >> sal;
95     while (sal!="si" and sal!="no"){
96         cout << "Decea continuar si/no: " ;
97         cin >> sal;
98     }
99     if (sal=="no"){
100         return 0;
101     }
102 }
103
104 }

```