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1 // fo1/2/linear/Temperatures.java
2 //
3 //
4 // Copyright 2003 Bill Campbell and Ethan Bolker
5
6 /**
7  * Temperature conversion program,
8  * for exercising LinearEquation objects.
9  *
10 * @version 2
11 */
12
13 public class Temperatures
14 {
15     /**
16      * First a hardcoded test of Celsius-Fahrenheit conversion,
17      * then a loop allowing the user to test interactively.
18      */
19
20     public static void main( String[] args )
21     {
22         Terminal terminal = new Terminal();
23
24         // create a Celsius to Fahrenheit converter
25         LinearEquation c2f = new LinearEquation( 9.0/5.0, 32.0 );
26
27         // ask it to tell us its inverse, for F to C
28         LinearEquation f2c = c2f.getInverse();
29
30         ////////////////////////////////////////////////////////////////////
31         // Testing style 1: Hard coded, self-documenting //
32         ////////////////////////////////////////////////////////////////////
33
34         terminal.println( "Hard coded self documenting tests:" );
35         terminal.print( "c2f.compute( 0.0 ), should see 32.0: " );
36         terminal.println( c2f.compute( 0.0 ) );
37         terminal.print( "f2c.compute( 212.0 ), should see 100.0: " );
38         terminal.println( f2c.compute( 212.0 ) );
39
40         ////////////////////////////////////////////////////////////////////
41         // Testing style 2: Interactive //
42         ////////////////////////////////////////////////////////////////////
43
44         terminal.println();
45         terminal.println( "Interactive tests:" );
46         while ( terminal.readYesOrNo( "more?" ) ) {
47             double degreesCelsius =
48                 terminal.readDouble( "Celsius: " );
49             terminal.println( " = "
50                 + c2f.compute( degreesCelsius )
51                 + " degrees Fahrenheit" );
52             double degreesFahrenheit =
53                 terminal.readDouble( "degrees Fahrenheit: " );
54             terminal.println( " = "
55                 + f2c.compute( degreesFahrenheit )
56                 + " degrees Celsius" );

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57     }
58 }
59 }

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