

```
1  /* Problem 4--Quest
2     This one is very straightforward.  Just compute x and y distance and
3     use the Pythagorean Theorem. */
4
5  import java.io.*;
6  import java.util.*;
7
8  public class prob4 {
9
10     private static Scanner in = null;
11     private static PrintWriter out = null;
12     private static int cs=0;
13
14     public static void main (String[] args) throws Exception {
15
16         in = new Scanner (new File ("prob4.in"));
17         out = new PrintWriter ("prob4.out"); //read and process cases
18         while (in.hasNextDouble()) Process ();
19         in.close ();
20         out.close ();
21     }
22
23     /* Process each case */
24     public static void Process () {
25
26         double x=0, y=0;
27         int dx = 0, dy=1; //direction
28         while (true) {
29             double d = in.nextDouble ();
30             x += dx*d; y += dy*d; //update x and y
31             String dir = in.next();
32             if (dir.equals ("D")) break; //turn left or right
33             if (dir.equals ("L")) {int t = dy; dy = dx; dx = -t;}
34             else {int t = dx; dx = dy; dy = -t;}
35         } //print answer
36         out.printf ("Case %d: Frodo is %.2f miles from the starting point.",
37                 ++cs,Math.sqrt(x*x+y*y));
38         out.println ();
39         out.println ();
40     }
41 }
42
```