Key point: *You can use* **Math.random()** *to obtain a random double value between* **0.0** *and* **1.0**, *excluding* **1.0**.

A sample program has the following specification:

1. Generate two single-digit integers into variables number1 and number2.
2. If number1 < number2, swap number1 with number2.
3. Prompt the student to answer, "What is number1 – number2?"
4. Check the student's answer and display whether the answer is correct.

Listing 3.3 SubtractionQuiz.java

```
1  import java.util.Scanner;
2
3  public class SubtractionQuiz {
4      public static void main(String[] args)  {
5          // 1. Generate two random single-digit integers
6          int number1 = (int)(Math.random() * 10);
7          int number1 = (int)(Math.random() * 10);
8
9          // 2. If number1 < number2, swap number1 with number2
10         if (number1 < number2) {
11             int temp = number1;
12             number1 = number2;
13             number2 = temp;
14         }
15
16         // 3. Prompt the student to answer "What is number1 – number2?"
17         System.out.print
18             ("What is " + number1 + " – " + number2 + "?");
19         Scanner input = new Scanner(System.in);
20         int answer = input.nextInt();
21
22         // 4. Grade the answer and display the result
23         if (number1 – number2 == answer)
24             System.out.println("You are correct!");
25         else {
26             System.out.println("Your answer is wrong.");
27             System.out.println(number1 + " – " + number2 +
28                 " should be " + (number1 – number2));
29         }
30     }
31 }
```

```
run:
What is 5 - 4? 1
You are correct!
BUILD SUCCESSFUL (total time: 7 seconds)
```

```
run:
What is 7 - 3? 29
Your answer is wrong.
7 - 3 should be 4
BUILD SUCCESSFUL (total time: 5 seconds)
```