

```
1 // Program #4: A High/Low Guessing Game (Procedural Programming style)
2
3 // Is it our code final version?
4 // Review it to look for improvements. Maybe there is something that appears
5 // many places... Talk to your neighbor about what you think might be a
6 // concern.
7
8
9 import java.util.*;
10 import java.io.*;
11
12 public class Prog4 {
13
14     private static final String SCORES_FILE = "scores.txt";
15     private static final String GUESS_PROMPT = "Enter your guess:";
16
17     //Class variable used to generate random numbers
18     private static Random rand = new Random();
19
20
21     private static int findRank(Scanner fInput, int score) {
22
23         int rank = 0;
24
25         while (fInput.hasNextLine()) {
26             String line = fInput.nextLine();
27
28             Scanner parseTokens = new Scanner(line);
29             String name = parseTokens.next();
30             int value = parseTokens.nextInt();
31
32             if (value > score)
33                 rank++;
34         }
35
36         return rank;
37     }
38
39
40     // Display the prompt and keep asking until guess is an integer
41     // post: return the player int number
42     private static int getInt(Scanner console, String prompt) {
43         System.out.print(prompt);
44
45         while (!console.hasNextInt()) {
46             console.next();
47             System.out.println("Not an integer; try again.");
48             System.out.print(prompt);
49         }
50         return console.nextInt();
51     }
52
53
54     // Prints _____ on guess
55     public static void printGuessFeedback(int number, int guess) {
56
57         if (guess < number)
58             System.out.println("Your guess is too low!");
59         else if (guess > number)
60             System.out.println("Your guess is too high!");
61     }
62
63
64     // _____
65     // post: guess is between 0 and 99
66     public static int getGuess(Scanner console) {
67
68         int guess = getInt(console, GUESS_PROMPT);
69         while (guess < 0 || guess >= 100) {
70             System.out.println("Out of range; try again.");
71             guess = getInt(console, "Enter your guess?: ");
72         }
73
74         return guess;
75     }
76
77
78     //
79     public static String giveIntro(Scanner console) {
80         System.out.print("Please enter your name: ");
81         String name = console.nextLine();
82         System.out.println("\nHello " + name + "! \nTry to guess my");
83         System.out.println("number (0-99), and I'll tell you if");
84         System.out.println("you're too low or high.");
85         System.out.println();
86
87         return name;
88     }
89
90
91
92 }
```

```
93     public static void main(String[] args) throws FileNotFoundException {
94
95         Scanner console = new Scanner(System.in);
96         String name = giveIntro(console);
97
98         // pick a random number from 0 to 99 inclusive
99         int number = rand.nextInt(100);
100
101         //
102         int guess = -1;
103         int numGuesses = 0;
104
105         //// give hints until correct guess is reached
106         while (guess != number) {
107             guess = getGuess(console);
108             printGuessFeedback(number, guess);
109             numGuesses++;
110         }
111
112         System.out.println("Nice job " + name + "!!");
113         System.out.println("You got it right in " + numGuesses + " tries.");
114
115         Scanner fileInput = new Scanner(new File(SCORES_FILE));
116         findRank(fileInput, numGuesses);
117     }
118 }
119
120
121
122
123 /*
124  * scores.txt
125
126 Precious 2
127 Morgan 4
128 Yingsee 6
129 Cau 7
130 Bilal 3
131 Priya 4
132 Elodie 8
133
134 */
```