

CSCI 1301 – Lab 28

December 4, 2018

1 Problem Solving – A Random Guessing Game

In lab, we developed the following solution to the “random guessing game”:

```
1  /*
2   * CSCI 1301 -- A Random Guessing Game.
3   * 2018/12/04
4   * This version (developped during lab) includes multiple
5   * enhancements compared to the version developped during class:
6   *     1. It uses do ... while loop, factoring some of the code,
7   *     2. It performs user-input validation,
8   *     3. It counts the number of attempts needed to guess correctly.
9   *     (bonus: it gives the maximum possible number to guess).
10  */
11
12  using System;
13
14  class Program
15  {
16      static void Main()
17      {
18          Random myBot = new Random(); // Creation of a random number generator.
19          int myst = myBot.Next(); // Assignment of a random number to "myst".
20          string msg; // (Temporary) variable for the string entered by the user.
21          bool validUInput; // Boolean variable to record the "validity" of the string
22                           // entered.
23          int uInput; // Variable for the numerical value entered by the user.
24          int attempt = 0; // Counter for the number of attempts.
25
26          do // Actual game located inside this loop.
27          {
28              // User input validation "block" starts.
29              do
30              {
31                  Console.WriteLine("Try to guess the mystery number"
32                                   + $" (enter a number between 0 and {int.MaxValue}).");
33                  msg = Console.ReadLine();
34                  validUInput = int.TryParse(msg, out uInput);
35              } while (!validUInput || uInput < 0);
36              // User input validation "block" ends.
37
38              // Helping the user:
39              if (uInput < myst) Console.WriteLine("Too low, try a greater value.");
40              else if (uInput > myst) Console.WriteLine("Too high, try a lower value.");
```

```
40
41         attempt++; // Incrementing the number of attempts taken.
42     } while (uInput != myst);
43     Console.WriteLine($"Congrats! You found the mystery number in {attempt}
    ↪ attempts.");
44
45 }
46 }
```

You can download this code as a project¹.

¹[RandomGuessGame.zip](#)