Exercise 9 – 1A2B (Part 1)

Difficulty level: 3 out of 5

Here are instructions on how to play the game 1A2B:

This game requires 2 players.

At the start of the game, Player 1 and Player 2 will each think of a 4-digit secret number. Each digit must be from 0-9 and there can’t be any duplicate numbers.

Then, Player 1 will guess Player 2’s secret number. Player 1’s guess must 4 digits and there must be no duplicates or else they will have to guess again.

Player 2 will then give Player 1 a hint to tell Player 1 how accurate their guess is.

A = same number, same position.

B = same number, different position.

If Player 2’s secret number is 0123 and Player 1 guesses 1043, then Player 2 will say “1A2B” because the number ‘3’ is in the same position and ‘0’ and ‘1’ are in different positions. (Note that the format is “nAnB” where n is a number 0-4.)

Then, Player 2 will guess Player 1’s secret number. If Player 1’s secret number is 7654 and Player 2 guesses 4137, then Player 2 will say “0A2B” because there are no numbers in the same position but ‘7’ and ‘4’ are in different positions.

The two players will keep take turns guessing until someone gets “4A0B” (which means all the numbers are the same and are in the same position). Whoever guesses the other player’s secret number first wins the game.

Now, for Exercise 9, make Player 1 the user and make Player 2 the computer. First, Player B (the computer) will generate a secret number but will not display it because it’s a secret. Player A (the user) will have to guess Player B’s secret number. (Player 2 will not be guessing Player 1’s secret number for the purposes of this exercise.) Display the number of guesses Player 1 took to guess the secret number correctly.