CMSC 204 | Iterators Lab

Consider a solitaire matching game in which you have a list of random integer values between 10 and 99.

To play the game, you remove from the list any pair of consecutive integers whose first- or second-digits match. If all values are removed from the list, you win!

For example, consider the following sequence of 10 integers:

10, 82, 43, 23, 89, 12, 43, 84, 23 and 32

The integers in the pair 10 and 82 do not match in either digit and so cannot be removed. However, the integers in the pair 43 and 23 match in the second digit and are removed, leaving the following sequence:

10, 82, 89, 12, 43, 84, 23 and 32

Continue checking for pairs from 89, the value after the removed pair. No other pairs have matching integers.

Now return to the beginning of the (iterating) list and check the pairs. The integers in the pair 82 and 89 match in the first digit and can be removed: 10, 12, 43, 84, 23 and 32

No other pairs can be removed, so we lose.

**Write a program that simulates this game.** It should generate 20 random two-digit integers (between 10 and 99) and place them in an instance of java.util.ArrayList using one or more instances of ListIterator.

In a small write-up, discuss your lessons learned.