

CMPG221D: Practical Assignment 3.1

[20]

You are now a programmer that will use the `MyArrayList` class, that was created in the first session of SU3.

Do you know the memory game where you must guess the matching cards? In the online game for kids below, they must find matching dinosaurs.



For this assignment, we are going to create our own memory game using integer values. This way is not as beautiful as the online version, but the graphics are hard work in Java and for this assignment, the idea is to focus on the use of the array list, not the graphics.

```
[ , , , ]  
[ , , , ]  
[ , , , ]  
[ , , , ]  
Enter first value row number:
```

This game makes use of 4 `MyArrayList`s. We will set up the game by randomly inserting 16 integers, but making sure that every value is inserted 2 times so that there can be matching values.

The user will guess by entering the row and column number of the card they select.

Part 1 (20 marks)

Create a wrapper class `Card`

This class must store an `int` value and a `Boolean` guessed. The idea is that the value of this card is compared to the value of another card to determine if the cards match. Create the class with proper accessors, mutators, a constructor, `toString` and an `Equals` method. The `toString` method must only display the number of the card if the card was guessed. (10)

Modify the `MyArrayList`

Add a `getCount()` method that will count the number of cards in the list with the same `int` value as the object passed as parameter. Make use of the `Equals` method created above. (5)

Write a test program to test the `Card` class and the `getCount` method thoroughly. (5)

Part 2 will be explained in the next assignment.