Problem Solving & Programming 1 (SOFT6018) - Lab Week 6

Number Guessing Game

This lab should be done using **Eclipse**. It is installed on all the machines in the labs.

Your program should have two classes `MainProgram` and `TheGame`

`TheGame`should declare and instantiate the following variables at **class level**

- An `int` variable to store the randomly generated number
- An `int` variable to store the number of correct guesses in a row
- A `Random` variable to store the instance of the `Random` class.
- A `public static final int` constant to store the MAX_NUMBER random number which is possible in the game

`TheGame`should also have [three](#) methods which do the following

- A `public` method called `playTheGame` which starts the game for the user. It should prompt them for their guess, generate a random number and print out a result.
- A `public` method called `printNoOfGuessesInARow`which prints the number of guesses which they have guessed correctly in a row **AND**also prints the last number which they guessed correctly
- A `public` method called `printMenu` which prints the menu to user and takes no parameter and returns nothing.

`MainProgram`should contain the have three `private` constants for the three menu options

It should do the following :

- Display a menu to the user asking if they want to :
-
    1. `Play The Game`
    2. `Print Highscore`
    3. `Exit.`
- A `Scanner` should be used to capture the users input when choosing an option

- A while loop should keep running allowing them to keep choosing 1 or 2 as they wish. Once they enter 3 the program should exit.
- A switch statement should be provided within the `while` loop to process the users choice
- It should create an instance of `TheGame` in `main` and call its methods as appropriate.
- If the user enters an invalid option (i.e. Not 1,2 or 3) they should get this message "You have entered an invalid option."