CT326 – Lab One

(Note that this lab exercise is not graded)

1. Use a test-driven development approach (TDD) to create a class representing a `Forum`. A forum will contain data about registered users as well as any `ForumPost`s that have been added to it. You can make use of the version of `ForumPost` that is provided on Canvas. You can use an `ArrayList` as the data structure for both the collection of forum posts and the collection of registered users.
   See https://docs.oracle.com/javase/8/docs/api/java/util/ArrayList.html for documentation on `ArrayList`.

2. It should be possible to register a valid user. A valid user is represented with an ID (int) and a username (String). The class representing users should be represented as a nested inner class within the `Forum` class.
3. It <u>should not</u> be possible to register a user that has already been registered with the same ID (not username). Such cases should be handled with an appropriate user defined checked exception.
4. It should be possible to delete a user from the forum by specifying their ID.
5. It <u>should not</u> be possible to delete a user that doesn't exist. Such cases should be handled with an appropriate user defined checked exception.
6. It should be possible to add a forum post to the forum.
7. It <u>should not</u> be possible add a forum post from a user with an ID that has not previously been registered on the forum. Such cases should be handled with an appropriate user defined checked exception.
8. Create a class to represent a console-based interface to a forum called `ForumApp`. It should provide the user with three options as follows:

   Enter 1 to register a user, 2 to delete a user, or 3 to make a post:

   These options should be represented using an appropriate enum called `Options`. There should be a method in the enum to translate between the numerical input that the user provides and the enum values. Depending on the option selected, the program should request required details from the user and call the appropriate methods in the `Forum` class.

   Note: you should use Scanner for getting console input form the user. To do this, it should be instantiated as follows:

   ```
   Scanner input = new Scanner(System.in);
   ```

   Documentation for the Scanner class can be found here:
   https://docs.oracle.com/javase/8/docs/api/java/util/Scanner.html