CS-140 — Spring 2017

Project 5

Objectives

The objective of this project is to learn how to create a class that simulates a game of Nim. Please refer to your book Chapter 5 (Page 299) - Programming project P6.6.

Background

The project contains two classes – `GameOfNim.java` and `Project5.java`. The `Project5.java` is given to you and it represents a driver module for `GameOfNim.java` class. You will be writing code for `GameOfNim.java`. `Project5.java` works for a single game. You need to modify `Project5.java` so it allows the user to play multiple games in one run. See the sample output. To see the entire output, you need to turn on *Unlimited Buffering* under Options in the Bluej output window.

Objectives

This project provides you with the opportunity to put together nearly all of the material you have learned so far to create a single program. Most of what you are asked to do is very similar to what you did in the labs and in-class work, so look back at those labs and class examples for ideas.

Procedure

- Go over `Project5.java` and the sample runs. Read the project description in your book and understand what needs to be done. It will be helpful to play the game with a pencil and paper and trace the sample runs
- The class has the following *public interface* consisting of two `public` methods:

    1. The constructor takes minimum and maximum size of the pile (of marbles). You need to figure out what instance variables you need and what the constructor is supposed to do.
    2. *play* method that simulates the game itself and prints appropriate messages on the screen

Specifications

You may choose to have one or more private methods if it makes your job easy. Private methods are sometimes called *utility* methods.

You need to submit your Project5 folder with the subfolder Project5Code with `GameOfNim.java` and `Project5.java` files.

A log file which must address **what you learned in this project and the difficulties you faced**, time you spent on the project, web sources you referenced etc. **The log file must be a plain text file, be named DiscussionLog.txt, and must be at the top level of your repository.**

This is an Individual Assignment - No Partners

As this is a Project (and not a Lab) you will be working on your own, not with a partner. You should not be sharing your code with anyone else, other than the instructor.

You will need to fork your own private Project5 repository on GitLab for this project. The only person who should have any access to your repository is your instructor.

You can ask questions on Piazza about setting up your repository on GitLab, about using Git to send code to the instructor, and general questions about how to write your code. However you should not be posting sections of code and asking others to find your errors.

You can cut down your coding time by a significant percentage by:

- understanding the project specifications mentioned in your book
- tracing the output file to understand how your code should work. Remember that your output will most probably won't match mine. The output files are given to help you understand the game
- figuring out what needs to be done before you start typing the code
- having a clear understanding of how the game of Nim is played

Deliverables

Be sure that you have your name and an explanation of what your program does in the Javadoc comments. Be sure that you have indented consistently.

You have to submit a discussion log along with the project. Please refer to DiscussionLogGuidelines repository or Lab2 for more information.

The instructor will pull your Project5 from your GitLab repository to grade it. Make sure:

1. You have pushed all changes to your shared repository. (I can’t access local changes on your computer.)
2. You have added your instructor as Master to your shared GitLab repository.

Due Date/Time

Your project deadline will be determined by your instructor

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