Assignment for **Continuing students**
OBJECT ORIENTED PROGRAMMING
Date of Release: 11th July 2020
Deadline for submission: 15th[nd] July, 1100 hrs IST
Weightage: 20%

PROBLEM:

You are required to code a 'n' player game. One of the game can be as follows.

Let there be one Moderator and 'n' Players. The moderator displays 10 random numbers (between 0 – 50) on a display screen with one-minute gap between the numbers. Each player is given a card containing 10 random numbers (between 0 - 50). As the number is displayed, the player strikes the number on his card if it matches with the one on the screen. The player who strikes three numbers first will be announced as a winner and the moderator stops generating numbers if a player wins before all the 10 numbers are generated. The numbers generated by the moderator and the player can be redundant. For e.g. if the moderator generates a 20 twice and if a player has one 20. After the player strikes the number, it should not be considered as a match, when 20 appears again on the display screen.

The moderator generates 10 numbers and stores it in an array list of integers. When the moderator is generating the number, the players should not read the array list. The moderator should generate the next number only after all the players have read the previously generated number. The array list should not be read by two players at the same time.

You should code for the multiplayer game in JAVA such that it covers the topics covered in the course including

Multithreading, generics and collections, arrays, exception handling, input/output and design patterns. Constructors are required wherever expected in the code.

Every component has weightage associated
1. Multithreading,
2. Generics and collections
3. Arrays
4. Proper Exception handling
5. Input/Output (use general libraries and not standard I/O)
6. Design patterns (at least 2)

Code not compiling/giving errors will be evaluated for 10% weightage (incurring a penalty of 10%).

Recorded Video Demonstration: All the students have to record the video demonstrating the execution of the assignment. How the program takes inputs, how each and every component especially Design patterns are used in the code must be clearly explained in the video. The video must start with the student introducing himself (NAME and ID number) and end with the again stating his name and ID number clearly. The video must be on throughout the demonstration. The demo should not exceed 20 minutes.

Any submission without demo will be evaluated from 14% weightage (incurring a penalty of 6%).

PLAGIARISM POLICY:

The code submitted must be original and should not have any part copied from any sources (Internet, other students, book, etc.)

The code shall be checked for plagiarism. **Any plagiarism found, ALL parties involved will be given 0**. Hence, it is the responsibility of students to carefully protect your code. The matter shall definitely be **reported to the dean** and may invoke serious repercussions.

SUBMISSION:

1. All the java files

2. Video demonstration. The video should have the demonstration of the code with explanation of code and inputs. Students can use Google meet.

Save the **Zip file** with **your name and ID number**. Submit the zip file over NALANDA to by **15th July 1100 hours IST.**

Incorrect submissions (including wrong file names) will bring penalty of 1%.

Hard deadline is 15th July end of the day. Any submissions received after that will bring 2% penalty for every late day submission. e.g. any student submitting on 17th July will be evaluated from 16% weightage.

No submission will be entertained after 18th July 2359 hours IST.

The students may be asked to defend the code in viva through Google Meet and asked questions from his course.

NOTE:

Assignment does not take much time for sincere OOP students. Already substantial buffer has been provided considering the difficulty level of assignment. Kindly do not send mails requesting for extending the deadline. Do not come up with excuses like laptop not working, insufficient electricity supply, or health issues, saw the notice late, etc. Only hospitalized students with proper proof should report by 12th July. For them one-to-one viva will be conducted including the entire syllabus of OOP.