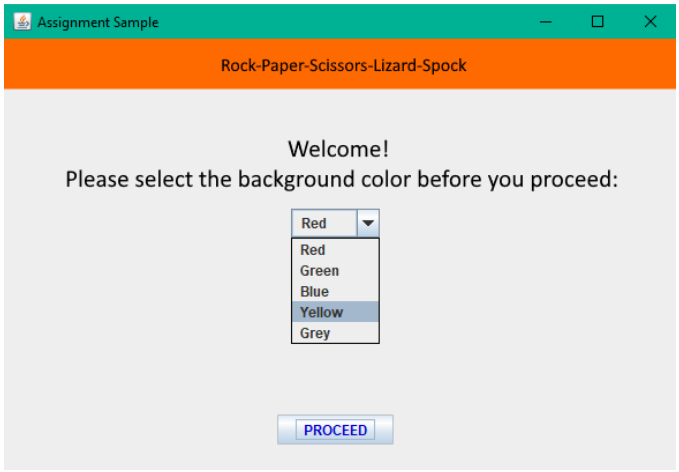
ASSIGNMENT GUIDELINES

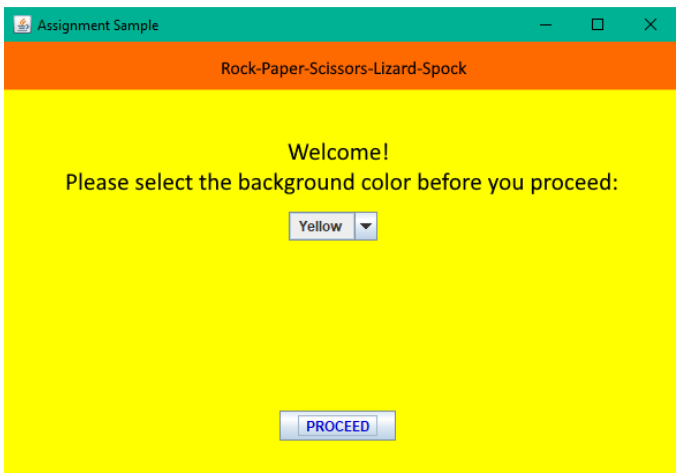
Introduction

1. This assignment carries **35%** of your total coursework marks for Programming in Java.
2. You are required to form a group that consists of 4 to 5 members per group. It is a group assignment and you are free to choose your own group members within the **same tutorial section**.
3. Make sure that there is/are **NO FREE-RIDER(S) IN THE GROUP**.
4. **Warning:** Plagiarism will be given zero (0) mark without prior notice.
5. Deliverable: **Online** submission of the **source code (program).**
   - Write group member's name and ID in the program.
   - All materials need to be uploaded in one zip folder.
   - One submission only (as a group).

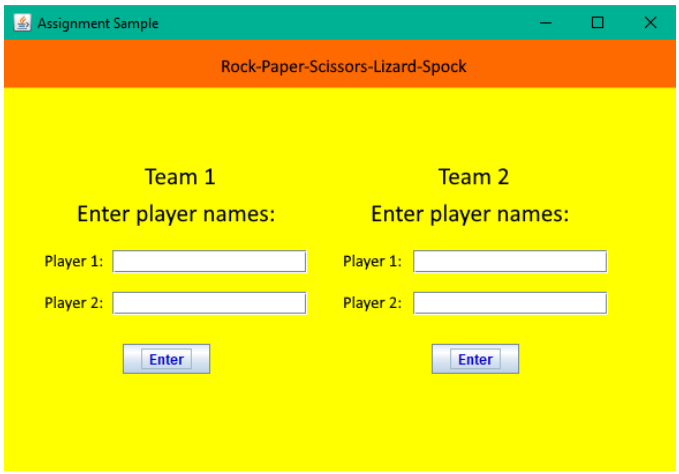
SPECIFICATIONS AND REQUIREMENTS

1. Develop a GUI application game using Java programming language based on Problem Description and Application Requirements below.
2. Problem Description:
   - The name of the game is **Rock-Paper-Scissors-Lizard-Spock**. This game is adapted from The Big Bang Theory and is an expansion on the Rock-Paper-Scissors. There will be 2 teams of 2 players.
   - First screen would be the Welcome Screen. In this screen, user can choose the background color of the window.

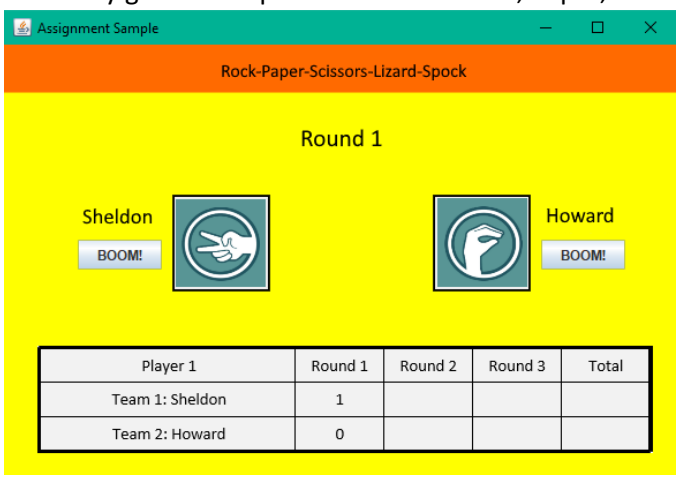


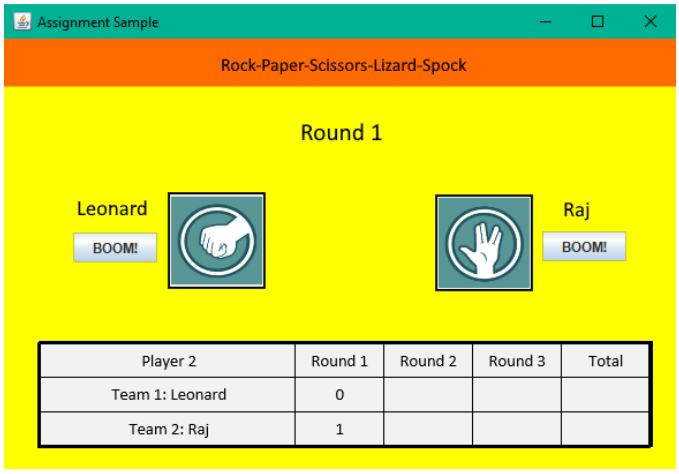


- After the user clicks the Proceed button, the next screen is for the user to enter the player names for each team.



- One player from each team will take turn to click the BOOM button and the program will randomly generate a picture of either Rock, Paper, Scissors, Lizard, or Spock.





- The winner is the one who defeats the others. 1 point will be awarded to the winner. The game will be played in 3 rounds. The winner will be the team with the highest point. **If there is a tie, add in more round until there is a winning team**.

- The rules: https://youtu.be/Kov2G0GouBw
  - Scissors cuts Paper
  - Paper covers Rock
  - Rock crushes Lizard
  - Lizard poisons Spock
  - Spock smashes Scissors
  - Scissors decapitates Lizard
  - Lizard eats Paper
  - Paper disproves Spock
  - Spock vaporizes Rock
  - Rock crushes Scissors

- The game ends after the winner is announced.

Player 1	Round 1	Round 2	Round 3	Total
Team 1: Sheldon	1	1	0	2
Team 2: Howard	0	0	1	1

Player 2	Round 1	Round 2	Round 3	Total
Team 1: Leonard	0	1	1	2
Team 2: Raj	1	0	0	1

3. Application requirements - Your application **MUST** include the following:
   - **JFrame**
   - **JDialog**
   - **Jcomponent:** JLabel, JTextField, JRadioButton, JButton, etc.
   - **Layout Manager:** FlowLayout, GridLayout and/or BorderLayout.
   - **Event Handling:** apply the suitable event handling
   - **ImageIcon**
   - **Helper classes:** Use helper classes (Color/Font/Graphics) creatively and appropriately in your program

4. Source Code Requirements
   - Your source code must be able to be interpreted without errors. If your source code cannot be interpreted, you will get ZERO for your whole assignment.
   - Documentation and Comments
     - Best if your code is self-explanatory. That is, your identifiers are very well-named and your code readers know their purposes without extra explanation. In situations where this is hard to achieve, you should add short comments to explain the purpose of declaring a variable or a block of code.
   - Deliverables:
     - You are to submit the following for this assignment:
       - Distribution of task among group members (refer to *Appendix A*)

- The source code for the program with appropriate comments inside the code. Insert your information at the beginning of the application file as follows:

```
/**
* Class Section: TT??
* Trimester 2 2020/21
* Members:
* Member1_Name | Member1_Id |Member1_Phonenum
* Member2_Name | Member2_Id |Member2_ Phonenum
* Member3_Name | Member3_Id |Member3_ Phonenum
* Member4_Name | Member4_Id |Member4_ Phonenum
* Member5_Name | Member5_Id |Member5_ Phonenum
*/
```

5. Submission Instructions
   - To prepare for your submission, you must strictly follow the instructions below. Failure to follow any of the instructions below will result in mark deduction:
     - Put your Java project folder and the task distribution file in another folder for submission, and name the folder as **TT??_GroupLeader'sIDNumber**.
     - Compress the folder as a ZIP archive (We recommend 7-Zip software for this task, but you can use any software that you know). At this point, your ZIP archive should contain a folder that contains your project and the task distribution file.
   - Double check your ZIP file before submitting to ensure that you have submitted the correct code and the code can be interpreted and run on Windows machine.

6. Interview
   - You might be asked to attend a virtual interview session to justify your contribution to your work. Details about the interview, if any, will be informed.

7. Plagiarism
   - It is normal to seek help from friends or from online resources when you do the assignment. However, seeking help should not go overboard, to the point of getting (or even paying) someone to complete the assignment partly or fully for you, copying from online resources without understanding, or doing any means with the intention to cheat. For this assignment, plagiarism means the following:
     i. Turning in a work that, from the examiner's point of view, you do not sufficiently understand.
     ii. Turning in someone else's work (whether partly or fully) as your own.
     iii. To use another's work (whether partly or fully) without crediting the source.
     iv. Any means of cheating.
   - Plagiarism is a serious offence. **We will give ZERO (0) marks to groups who plagiarize AND to groups who intentionally or unintentionally help other students to plagiarize by giving all or some of their code**.

8. Evaluation Marksheet:

Criteria	Mark Allocation	Marks
(A) Interface and Appearance (5%)		
Main Interface. GUI components (JFrame, JDialog, Jcomponent, Layout Manager, ImageIcon Helper classes) are used.	[5m] Satisfy ALL GUI components requirements. [2m] Missed any GUI components requirements.	/5
(B) Program Logic (20%)		
Window can change color based on the user's selection using drop-down list	[4m] All criteria supported [2m] Some part of the criteria are not supported [0m] Any other cases.	/4
2 teams and 2 player names per team can be entered and saved.	[4m] All criteria supported [2m] Some part of the criteria are not supported [0m] Any other cases.	/4
Images are randomized and image appears after button is clicked. Image can be repeated.	[4m] All criteria supported [2m] Some part of the criteria are not supported [0m] Any other cases.	/4
Points are awarded correctly in every round.	[4m] All criteria supported [2m] Some part of the criteria are not supported [0m] Any other cases.	/4
Final screen - Winner announced, points are shown in the table, accumulated points for each team are shown and Exit button exits the game	[4m] All criteria supported – Use external question bank file [2m] Some part of the criteria are not supported [0m] Any other cases	/4
(C) Error Handling (4%)		
Runtime Error	[4m] Perfect – The examiner cannot find any runtime error on all tests [0m] Imperfect – The examiner finds at least ONE runtime error in one of the tests (Program terminted unexpectedly)	/4
(D) Source Code (4%)		
Documentation, identifier names and comments	[4m] Comments and variable naming sufficiently makes the code easy to read. [0m] The examiner finds the code difficult to understand.	/4
(E) Deliverables and Submissions (2%)		
Submission instruction followed: Members' information in comment, correct filename	[2m] Follow ALL instructions – NO instruction violated [0m] Follow PARTIAL instructions – At least ONE instruction violated	/2
	Total	/35
	Plagiarism: 0 (False) or 1 (True)	
	Assignment mark = Total * Piagiarism	

9. Assignment submission dateline**: 26 February 2021 (Friday) - *subject to change***