

## Java Roshambo and the Dial (Loop) of Destiny

Time required: 60 minutes

Please read the directions carefully before beginning the assignment.

- Comment your code as shown in the tutorials and other code examples.
- Follow all directions carefully and accurately.
- Think of the directions as minimum requirements.

### Pseudocode or TODO

1. Write pseudocode or TODO for the exercise.
1. Comment your code to show evidence of understanding.

### Here's What I Want You to Do

Rock, paper, scissors, also known as Roshambo, is a simple child's game that is frequently used to settle disputes. We are going to create a Roshambo game to play with the computer.

In the game, a rock breaks the scissors, the scissors cut the paper, and the paper covers the rock. Each option is equally likely to prevail over another. If the players choose the same object a draw is declared, and the game is repeated until someone prevails.

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## Starter Pseudocode

```
# TODO: Get 1, 2 or 3 from human (Rock, Paper, Scissors)

# TODO: Generate random 1, 2 or 3 for computer turn (Rock, Paper, Scissors)
# TODO: Use the decision matrix to develop the decision structure
if human == 1
    human chooses Rock
    if computer == 1
        computer chooses Rock
        Tie
    else if computer == 2
        etc.
else if human == 2
    If computer == 1
        etc.
```

## Decision Matrix for Rock Paper Scissors

Player's choice	Computer's choice	Outcome
Rock	Rock	Tie
	Paper	Computer wins because paper covers rock
	Scissors	Player wins because rock breaks scissors
Paper	Rock	Player wins because paper covers rock
	Paper	Tie
	Scissors	Computer wins because scissors cut paper
Scissors	Rock	Computer wins because rock breaks scissors
	Paper	Player wins because scissors cut paper
	Scissors	Tie

## Here's Why I Want You to Do It

Demonstrate understanding of:

## Variables, Constants, Input, Decisions

### Minimum Requirements

You can use your Roshambo code from a previous assignment to build from. The point of this assignment is to add a game loop.

Add the following to your Java Roshambo game.

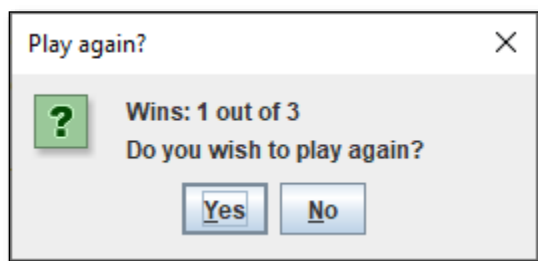
- This can be a CLI or JOptionPane program.
- Allow the user to play as many games as they wish.
- Track user wins out of total games.

Save the application as **Roshambo.java**

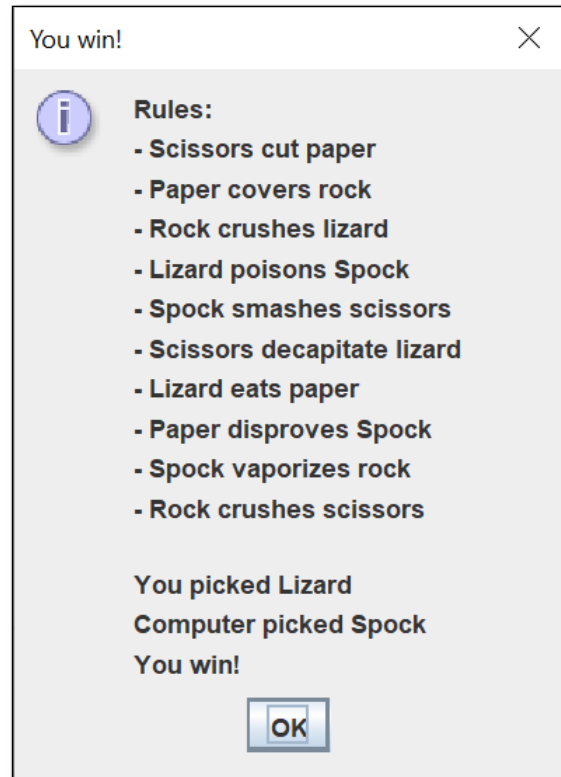
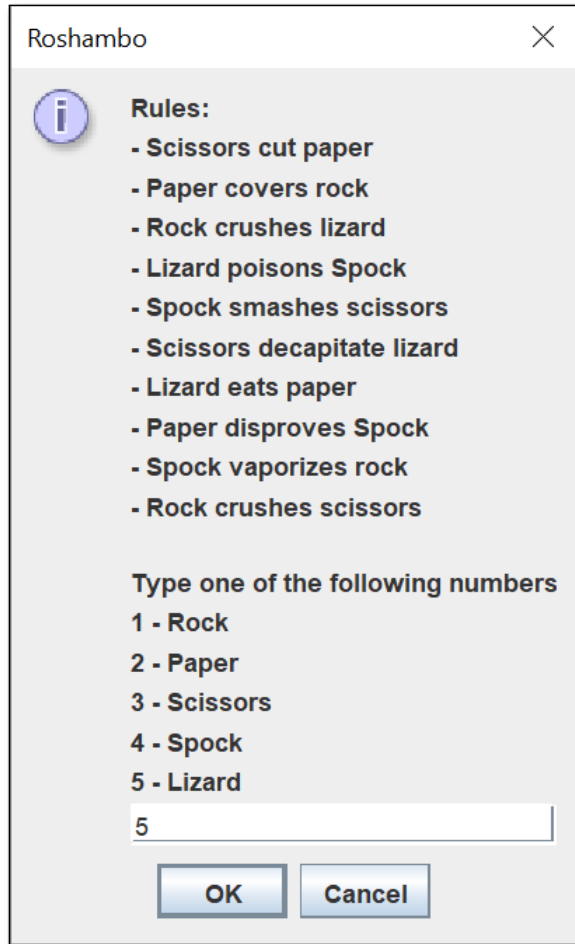
Example run:

```
Welcome to Rock, Paper, Scissors!
Enter (1) Rock (2) Paper (3) Scissors.
Enter your choice: 1
Computer chose: Rock
It's a tie!
Player wins: 0 out of 1
Win Percentage: 0.0%
Do you want to play again? (y/n): y
Enter your choice: 2
Computer chose: Rock
You win!
Player wins: 1 out of 2
Win Percentage: 50.0%
Do you want to play again? (y/n): n
Thanks for playing!
```

Example run:



### Student Submission



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## Assignment Submission

1. Use pseudocode or TODO.
2. Comment your code to show evidence of understanding.
3. Attach the program files.
4. Attach screenshots showing the successful operation of the program.
5. Submit in Blackboard.