

Project 5-1 – RockPaperScissors

R.O.P.R. (Rock Operation Plan Response)

Player Choice

- ☒ Always Rock
- ☐ Always Paper
- ☐ Always Scissors
- ☐ Previous Computer Choice
- ☐ Random

Enter # of Simulations

Play

Exit

Results

Player Wins	Computer Wins	Ties
Player Win %	Computer Win %	Tie %

Computer Selection Summary

Rock	Paper	Scissors

Figure 1

R.O.P.R. (Rock Operation Plan Response)

Player Choice

- ☐ Always Rock
- ☒ Always Paper
- ☐ Always Scissors
- ☐ Previous Computer Choice
- ☐ Random

Enter # of Simulations

10000

Play

Exit

Results

Player Wins	Computer Wins	Ties
3,314	3,352	3,334
Player Win %	Computer Win %	Tie %
33.1 %	33.5 %	33.3 %

Computer Selection Summary

Rock	Paper	Scissors
33.1 %	33.3 %	33.5 %

Figure 2

R.O.P.R. (Rock Operation Plan Response)

Player Choice

- ☐ Always Rock
- ☐ Always Paper
- ☐ Always Scissors
- ☐ Previous Computer Choice
- ☒ Random

Enter # of Simulations

100000

Play

Exit

Results

Player Wins	Computer Wins	Ties
33,321	33,375	33,304
Player Win %	Computer Win %	Tie %
33.3 %	33.4 %	33.3 %

Computer Selection Summary

Rock	Paper	Scissors
33.5 %	33.1 %	33.4 %

Figure 3

Aaaahhhh...how many times in your life did you have (or avoid having) to do something because of the classic schoolyard game Rock Paper Scissors? You know the one, rock breaks scissors, scissors cuts paper, and paper covers rock. Personally, I always did the best two out of three unless it was super important then it was the best three out of five. What if there were a way to play the game 100 times? 1,000 times? 1,000,000 times? What if I always chose rock? What if I always chose my opponent's previous pick? Would my chance of winning increase and consequence for having to pour sugar in a gas tank decrease? That's what you're going to find out!

You will write a R.O.P.R. (Rock Operation Plan Response) program that spends all its time thinking about Rock Paper Scissors. 24 hours a day 365 days a year, it will play an endless series of RockGames using all available information on the on the state of the player. The R.O.P.R. will have already fought Rock Paper Scissors, as a game, time and time again so you do not have to. The interface is pretty straight-forward, the user selects what s/he chooses and how many times the game should play. Results will calculate the Player Wins, Computer Wins, Ties, and percentage of each. The program will also keep track of the computer selections.

Project Objectives:

- Evaluate decisions and conditions using conditional and looping control structures
- Use of mathematical operations
- Input validation

Requirements

- Comment your code!!!
- Program will calculate and display the number of times the computer selects rock, paper, and scissors
- Must use (at least once):
 - If...Then...Elseif
 - Nested If
 - Loop of your choice
- Program will calculate and display Player Wins, Computer Wins, Ties, and the percentage of each.
- Program will ensure the user entered a numeric value greater than zero
- Play is the form's AcceptButton & Exit is the form's CancelButton
- Must use Try/Catch

By the by, note that this program eliminates the human element. In Rock, Paper, Scissors, humans develop tendencies and patterns that this program does not account for so your percents should always be 33 +/- 3