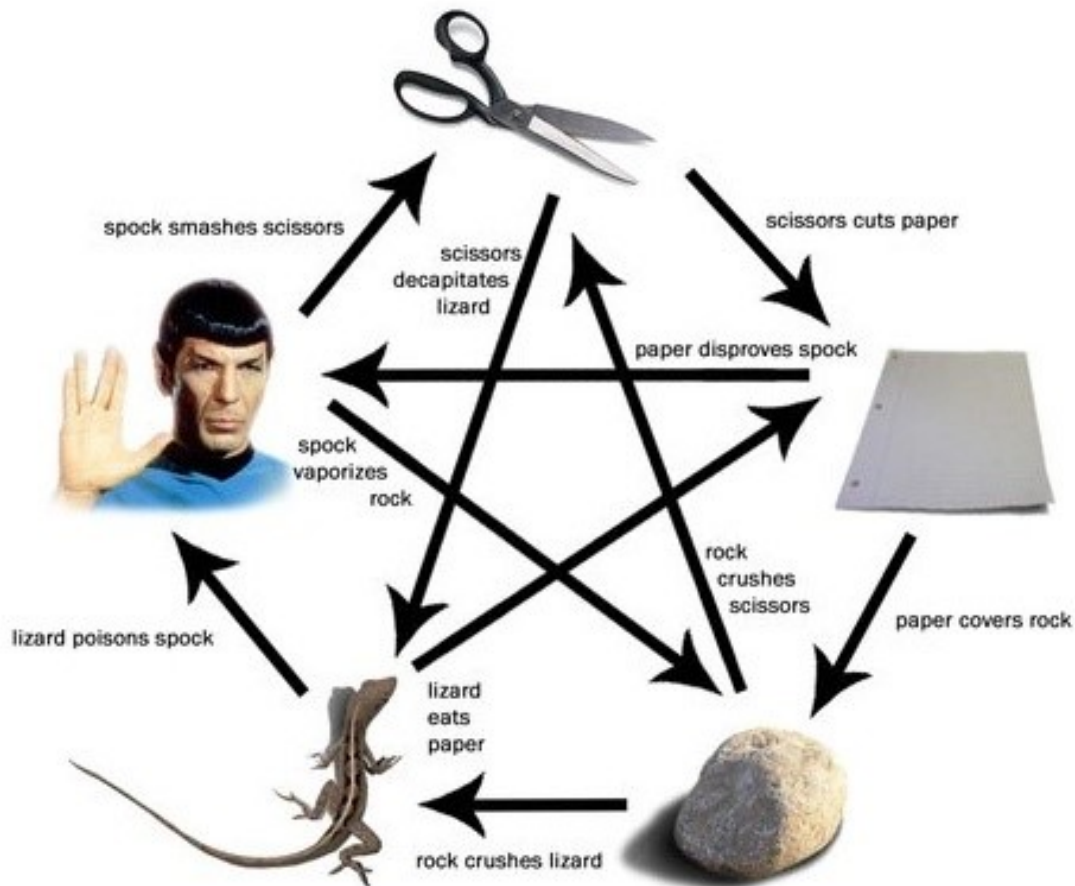# Rock, Paper, Scissors, Lizard, Spock

Lab 3

What do you need to know in order to do this lab?

All your programming expertise.

What you will do:

You will create a variation of the game of Rock, Paper, Scissors, Lizard, Spock. The human player chooses from a number of possibilities and the computer does the same with the random function. The weapons are compared and someone wins or, if the same numbers were chosen, it is a tie and the round is repeated. Refer to the diagram above to see who beats who.

The variation is that the player and the computer cannot choose the same weapon twice in a row during a match. The program will only allow the user the options they have available (see the sample output).

Follow the below Sample Expected Output to design the input and output for the program. A game is made up of an odd number of rounds so that someone will win each time. When playing the game, a round is a tie when the player and the computer chose the same weapon but that round will not count and the round must be replayed. Note that the final round(s) do not have to be played when the player or the computer is ahead 2-0 in a 3-round match, or ahead 3-0 or 3-1 in a 5-round match, or 4-0, 4-1, or 4-2 in a 7-round match, or ahead 5-0, 5-1, 5-2, 5-3 in a 9-round match. If the user enters 0 number of rounds, then end the match.

Using arrays, keep track of the wins-losses-ties each player has with each type of weapon. Refer to the sample expected output for how the program could display the information at the end of the program.

For some of the output text create several different ways to say the same thing and then randomly choose one of the possible choices. Changing the text from time to time will keep the game more interesting for the player. This is a requirement, so how will you do this? Think about it.

Sample Expected Output:

```
********************************************************************
Welcome to the Wonderful Game of ROCK, PAPER, SCISSORS, LIZARD, SPOCK!
********************************************************************
What is your name?
Leonard
********************************************************************
Rules of the game:
     Rock crushes Lizard and scissors.
     Paper covers rock and disproves Spock.
     Scissors cuts paper and decapitates lizard.
     Lizard poisons Spock and eats paper.
     Spock smashes scissors and vaporizes rock.
Players cannot pick the same weapon twice in a row.
********************************************************************
How many rounds do you want to play this match, Leonard? (1,3,5,7,9)
3
This match will be a best of 3 rounds. Good luck!
------------------------------------------------------------
Round #1:    (1=Rock, 2=Paper, 3=Scissors, 4=Lizard, 5=Spock)
Choose your weapon, Leonard.
3
Leonard chose Scissors. I chose Lizard.
Scissors decapitates Lizard. You win.
The score is 1-0.

Round #2:    (1=Rock, 2=Paper, 3=Not Available, 4=Lizard, 5=Spock)
Choose your weapon, Leonard.
5
You chose Spock. I chose Paper.
Paper disproves Spock. I win. You lose.
The score is 1-1.

Round #3:    (1=Rock, 2=Paper, 3=Scissors, 4=Lizard, 5=Not Available)
Choose your weapon, Leonard.
2
We both chose Paper.
```

A tie means we have to replay this round.
The score remains 1-1.

Round #3:   (1=Rock, 2=Not Available, 3=Scissors, 4=Lizard, 5=Spock)
Choose your weapon, Leonard.
1
You chose Rock. I chose Scissors.
Rock breaks Scissors. You win.
The score is 2-1.

You won this game, Leonard. Well done!

Leonard is leading the match 1-0.
Do you want to play again? (Y/N)
Y

Rules of the game:
      Rock crushes Lizard and scissors.
      Paper covers rock and disproves Spock.
      Scissors cuts paper and decapitates lizard.
      Lizard poisons Spock and eats paper.
      Spock smashes scissors and vaporizes rock.
Players cannot pick the same weapon twice in a row.

How many rounds do you want to play this match, Leonard? (1,3,5,7,9)
1
All or nothing. I like it. Good luck!

Round #1:   (1=Rock, 2=Paper, 3=Scissors, 4=Lizard, 5=Spock)
Choose your weapon, Leonard.
7
I'm sorry, that is not a valid weapon.
Round #1:   (1=Rock, 2=Paper, 3=Scissors, 4=Lizard, 5=Spock)
Choose your weapon, Leonard.
2
We both chose Paper.
A tie means we have to replay this round.

```
The score remains 0-0.


Round #1:    (1=Rock, 2=Not Available, 3=Scissors, 4=Lizard, 5=Spock)
Choose your weapon, Leonard.
1
Leonard chose Rock. I chose Scissors.
Rock breaks Scissors. Leonard wins.
The score is 1-0.


You won this game, Leonard. Well done!
----------------------------------------------------------------
Our match score today is 2-0.
Do you want to play again? (Y/N)
No
You have been a formidable opponent today, Leonard.
Here are the match statistics:
Leonard defeats Computer 2-0.
Leonard
     2-0-0 as Rock
     0-0-2 as Paper
     1-0-0 as Scissors
     0-0-0 as Lizard
     0-1-0 as Spock
Computer
     0-0-0 as Rock
     1-0-2 as Paper
     0-2-0 as Scissors
     0-1-0 as Lizard
     0-0-0 as Spock


Come back for a rematch anytime, Leonard.
Goodbye!
```

Deliverables:

- A test plan showing all types of input and output values.
  How would you prove to your manager that your code works?
- The file containing the completed Java code.