

# AP Computer Science Principles

## Aim: SWBAT create a game of Rocks Paper Scissors using Java.

Do Now: See Think Wonder

In your notebook,

- List 3 things that you notice in the following assignment.
- List 2 things you think you need to do to complete this assignment.
- List 1 thing that you wonder about when analyzing this problem.

## AP Computer Science Principles

### Introduction to Python

#### Project 2: Create a Rock Paper Scissors Game

For this project, you will use Python to create a Rock Paper Scissors Game. The computer will randomly pick Rock, Paper, or Scissors for itself and will ask the player for their selection of Rock, Paper, or Scissors.

1. The Basic version of the game should include the following:
  - The computer randomly picks a number from 1 – 3 (1 for Rock, 2 for Paper, 3 for Scissors)
  - The computer asks the player to enter 1, 2 or 3 (1 for Rock, 2 for Paper, 3 for Scissors)
  - The computer checks to determine the winner of the round
    - If the player and the computer pick the same, the round is a draw
    - Rock beats Scissors
    - Scissors beats Paper
    - Paper beats Rock
  - The computer outputs the computer's choice, the player's choice, and the result of the round (Player wins, Computer wins, or Draw)
2. For the Intermediate version of the game add the following to the Basic version:
  - The game is Best of 3:
    - For each round, the computer outputs result as in the Basic version
    - When either the Computer or the Player has won 2 rounds, the computer outputs the winner of the match
3. For the Advanced version of the game add the following to the Intermediate version:
  - The player specifies the number of rounds needed to win:
    - The computer asks the player how many rounds are needed to win
    - For each round, the computer outputs the result as in the Basic and Intermediate versions
    - When either the Computer or the Player has won the match, the computer outputs the winner of the match and how many rounds the winner has won

# Activity - 2 Days

For this project, you will use Python to create a Rock Paper Scissors Game. The computer will randomly pick Rock, Paper, or Scissors for itself and will ask the player for their selection of Rock, Paper, or Scissors.

1. The Basic version of the game should include the following:
  - The computer randomly picks a number from 1 – 3 (1 for Rock, 2 for Paper, 3 for Scissors)
  - The computer asks the player to enter 1, 2 or 3 (1 for Rock, 2 for Paper, 3 for Scissors)
  - The computer checks to determine the winner of the round
    - If the player and the computer pick the same, the round is a draw
    - Rock beats Scissors
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  - The player specifies the number of rounds needed to win:
    - The computer asks the player how many rounds are needed to win
    - For each round, the computer outputs the result as in the Basic and Intermediate versions
    - When either the Computer or the Player has won the match, the computer outputs the winner of the match and how many rounds the winner has won