Homework #2 – Rock, Paper, Scissor

DUE: September 17 by 11:59:59 PM **Assigned**: September 10

Background

Program the game rock paper scissors such that you play against the CPU, who chooses values at random. Play as many times as you like. Total games played and win count are tracked as long as the program is running.

Assignment Requirements

- The name of your source code file shall be `hw02.cpp`
- The program is only required to work if the user input are numbers
  - Error messages should be printed to the error stream using `std::cerr`
- Paper beats Rock, Rock beats Scissor, Scissor beats paper
- Keep a count of the player's wins and total games played
  - Display these counts after every round, see the Sample Run
- After each round, the menu is shown again for players to continue playing as long as they enter a valid choice between rock, paper, or scissor
- When displaying the tallies, ensure that the message states "game" instead of "games" after the first round, see Sample Run
- Possible outcomes:
  - You win
    - Display the message "You are victorious!"
    - Total game count AND score increase by 1
  - You lose
    - Display the message "You lose."
    - Total game count increases by 1
  - You tie
    - Display the message "It's a tie!"
    - Total game count increases by 1

Sample Run

```
*** Rock, Paper, Scissors ***
Choose your fate:
        1. Paper
        2. Scissor
        3. Rock
        #. Quit (any other number)

Enter the number of your choice: 1

You chose PAPER.
Your opponent chose ROCK.
```

```
You are victorious!

*** You have played 1 game.
*** Your total score is 1.

Choose your fate:
        1. Paper
        2. Scissor
        3. Rock
        #. Quit (any other number)

Enter the number of your choice: 2

You chose SCISSOR.
Your opponent chose ROCK.
You lose.

*** You have played 2 games.
*** Your total score is 1.

Choose your fate:
        1. Paper
        2. Scissor
        3. Rock
        #. Quit (any other number)

Enter the number of your choice: 5
Thanks for playing!
```

Hints

- You do not need to test all possibilities
- The name of the game only appears once
- Your choice of loop will have an observable impact on what your code looks like
    - When deciding on a loop, it will benefit you to consider the different loops, their viability, and what the differences might be

Reminders

- Be sure to include a comment block at the top of every file with the required information
    - Refer to the General Homework Requirements handout on Blackboard
- Provide meaningful comments
    - If you think a comment is redundant, it probably is
    - If you think a comment is helpful, it probably is

    - Remember that you are writing comments for other programmers, not people who know nothing (obligatory Jon Snow) about coding
    - Comments are more helpful when they explain why, not what or how
- There will be no extensions

Preparing and Submitting

- Your code must be able to compile and run on the TAs' machines
    - You are responsible for testing your code
    - "But it runs fine on my machine!" will **not** earn you any points
- Submit **ONLY** your source code file
- Homework submission will be handled exclusively through Blackboard