CSC 1300 LAB 5 PURPLE

Fall 2024, Written by Kelsey Rainey, Last Updated Sept 27, 2024

Learning Objectives

- While/Do-While Loops
- For Loops
- Nested Loops
- · Running totals

NO Paired Programming Option

This is an <u>individual assignment</u>. As per the syllabus, you may still talk with other students about the assignment, **however**, you are not allowed to share more than a few lines of code with them.

Part 1: (Anything But) Rock-Paper-Scissors (Stewart)



The premise of Anything But Rock-Paper-Scissors is in the name – it's rock-paper-scissors without using rock, paper, or scissors. The sample output uses rock-paper-scissors but be creative! Come up with different options and explain **in the comments** why one beats/loses to the other (or just add on one option to standard rock-paper-scissors if midterms have gotten you down). Feel free to add ASCII art as well for the rounds! Remember, this is still a lab assignment so keep your items appropriate.

<u>You must</u> use at least one of each: for loop, while loop, do-while loop. It is up to you to decide where to use each loop. Remember, <u>THIS IS AN INDIVUDAL ASSIGNMENT!</u>

Your Program:

- 1. Should ask the number of contestants. **Verify** that the number is greater than 1
- 2. Should get each contestant's name.
- 3. In each round:
 - a. Print out the options and verify that the user's choice is within the correct range.

- b. Generate a random number in the range as the computer's option.
- c. Decide if the user won, the computer won, or if it was a tie
- 4. If the contestant or the computer wins 3 rounds, the game should print out who won and move on to the next contestant.
- 5. After all the contestants have played, print:
 - a. The total rounds played
 - b. The average rounds for each contestant
 - c. The total rounds that ended in a tie

Sample Outputs

User input is highlighted in yellow.

```
Sample Output 1
```

```
How many contestants are playing? 2
What's your name contestant 1? Kelsey Rainey
Choose your weapon:
1. Rock
2. Paper
3. Scissors
Round 1: Kelsey Rainey wins!!
              :+*******#########.
            . -**********##############
         ..=+**********###################
       .:+-+***********#######################
       .+*****************
      =****
    =****************
    :***********************
     .+*********************
     .=***********########################
          ....:::::::----::..
Choose your weapon:
1. Rock
2. Paper
3. Scissors
1
Round 2: Kelsey Rainey wins!!
              :+*******#########.
            . -**********##############
         ..=+***********##################
       .+***********************
       ***************
     +*************
     *************************
     =****
```

```
=************************
       :****************************
       .+*****************************
        +**********************
         ....:::::::----==----:..
Choose your weapon:
1. Rock
2. Paper
3. Scissors
Round 3 is a tie!!
Choose your weapon:
1. Rock
2. Paper
3. Scissors
Round 4: Computer wins : (
Choose your weapon:
1. Rock
2. Paper
3. Scissors
Round 5: Kelsey Rainey wins!!
                    :+******#########.
                 .-*********################
             ..=+**********#####################
           .:+-+**********########################
          .+*****************
        +******************************
       .+*********************************
       :***********************
      =****************************
      =****************
       :****************************
       .+****************************
        +*****************
         .=****************
               ....:::::::----==----:..
Kelsey Rainey wins!! So proud :)
What's your name contestant 2? April Crockett
Choose your weapon:
1. Rock
2. Paper
3. Scissors
Round 1: April Crockett wins!!
                    :+******#########
                 . -*********##############
             ..=+**********##################
```

```
:*****************
      .+********************
     .+****************************
    :******************
    =*******************
    :*****************************
    .+****************************
     +**********************
      ....:::::::----==----:..
Choose your weapon:
1. Rock
2. Paper
3. Scissors
Round 2: Computer wins : (
Choose your weapon:
1. Rock
2. Paper
3. Scissors
Round 3: April Crockett wins!!
             ....::------
     .-.::--::::::::...::---::::::..-.
     .-:..:::::::...:-:--:.:...:...
     .::.::=-:::-.
     ..=...:-:..-:.
      .=.....:::::-----:...::.
      .-.:---:::..-.
      .-..::-------:.:----:::...-.
      .-:...............:::::::::--:.-.
      .:-.:----::.:---::
      ..-.........::::::-----:.-:.
      .-.:::::::::::-----:::-.
      .-.........
      .======--::...
Choose your weapon:
1. Rock
2. Paper
3. Scissors
Round 4 is a tie!!
```

```
Choose your weapon:
1. Rock
2. Paper
3. Scissors
Round 5 is a tie!!
Choose your weapon:
1. Rock
2. Paper
3. Scissors
Round 6: April Crockett wins!!
                            0000
                          @@-:+@
                         @%::=@
                        0#::-00
                       @*:::%@
                                 @@@**@
                     @@=:::#@@@@*-:::#@
                    @@-::-#@#-::::-#@@
    99999
                   @%=+%#-::::-*@@
  00++++#00
                 @@@#-:%%::::+@@
@@*+%@@@@*+@@@@@#:::::-@@-=@@
       @#+@@
@%+%@
       @#+++++8@@ @@-:#@
@*+#@@
 000080000
                @#+++@
               08+++#000
              @@++*##++%@
              0+*00 0#+%0
             @%+%@ @@+#@
              0++00000++00
              @@*++++*@
                000000
April Crockett wins!! So proud :)
Total Rounds: 11
Average rounds per contestant: 5.5
Total ties: 3
Sample Output 2
How many contestants are playing? 0
Do you not want to play : (
Please have at least 1 contestant: 1
What's your name contestant 1? Benjamin Burchfield
Choose your weapon:
1. Rock
2. Paper
3. Scissors
No specialty moves. Choose option 1-3: 2
Round 1: Benjamin Burchfield wins!!
```

```
.-.::--::::::::...:----:::::..-.
       .-:..::::::::..:-:-:-:.:..:...
       .::.::=-:::-.
       ..=...:-:..-:.
        .=....:::.
        .=.....:::::-----:...::.
        .-.:::::::::.-.
        .-.:---:::...-.
        .-..::-------:.:----:::...-.
        .-:..............::::::::--:.-.
        .:-.:----::.:---::
        ..-.........::::::-----:.-:.
        .-.:::::::::::-----:::-.
        .======--::...
Choose your weapon:
1. Rock
2. Paper
3. Scissors
Round 2 is a tie!!
Choose your weapon:
1. Rock
2. Paper
3. Scissors
Round 3: Computer wins : (
Choose your weapon:
1. Rock
2. Paper
3. Scissors
Round 4: Computer wins : (
Choose your weapon:
1. Rock
2. Paper
3. Scissors
Round 5: Benjamin Burchfield wins!!
                  0000
                @@-:+@
                @%::=@
               @#::-@@
              @*:::%@
                    060**0
             @@=:::#@@@@*-:::#@
```

....::------

```
@@-::-#@#-::::-#@@
  00000
            @%=+%#-::::-*@@
 00++++#00
           000#-:%%::::+00
@@*+%@@@@*+@@@@@#:::::-@@-=@@
0#+00
     0+++++*8::8008--00
@%+%@
     @#+++++8@@ @@-:#@
08++*#*++*8000
           @=:*@
 000080000
           0*+#00
          @#+++@
         08+++#000
         @@++*##++%@
         @+*@@ @#+%@
        @%+%@ @@+#@
         0++00000++00
         @@*+++++
          999999
Choose your weapon:
1. Rock
2. Paper
3. Scissors
Round 6: Benjamin Burchfield wins!!
                 ....::------
       .-:..:::::::::..:-:--:.:...
       .::.::=-:::-.
       .:-...:::-..
       ..-...::.-:.
       .-.:---:::...-.
        .-..::-------:.:----:::...-.
        .-:..................:::::::--:.-.
        .:-.:----::.:---::
        ..-..........::::::-----:.-:.
        .-........-.
        .======--::...
Benjamin Burchfield wins!! So proud :)
Total Rounds: 6
Average rounds per contestant: 6
Total ties: 1
Sample Output 3
How many contestants are playing? 1
What's your name contestant 1? Tyce Henderson
Choose your weapon:
1. Rock
```

```
2. Paper
3. Scissors
Round 1: Computer wins : (
Choose your weapon:
1. Rock
2. Paper
3. Scissors
Round 2: Tyce Henderson wins!!
                              0000
                           @@-:+@
                          @%::=@
                         0#::-00
                        @*:::%@
                                  @@@**@
                      @@=:::#@@@@*-:::#@
                     @@-::-#@#-::::-#@@
    99999
                    @%=+%#-::::-*@@
  00++++#00
                  @@@#-:%%::::+@@
@@*+%@@@@*+@@@@@#:::::-@@-=@@
        @++++*%::%@@%--@@
@#+@@
@%+%@
        @#+++++8@@ @@-:#@
@%++*#*++*%@@@
                 0=:*0
  000080000
                  0*+#00
                 @#+++@
                09+++#000
               @@++*##++%@
               0+*00 0#+%0
                    @@+#@
              @%+%@
               0++00000++00
               @@*++++*@
                 00000
Choose your weapon:
1. Rock
2. Paper
3. Scissors
Round 3: Computer wins : (
Choose your weapon:
1. Rock
2. Paper
3. Scissors
Round 4: Tyce Henderson wins!!
                              0000
                           @@-:+@
                          @%::=@
                         @#::-@@
                        @*:::%@
                                   060**0
                      @@=:::#@@@@*-:::#@
                     @@-::-#@#-::::-#@@
    99999
                    @%=+%#-::::-*@@
  00++++#00
                  @@@#-:%%::::+@@
@@*+%@@@@*+@@@@@#:::::-@@-=@@
0#+00
         0+++++*8::8008--00
        @#+++++8@@ @@-:#@
@%+%@
```

```
08++*#*++*8000
                   @=: *@
  000080000
                   0*+#00
                 @#+++@
                09+++#000
                @@++*##++%@
                @+*@@ @#+%@
              @8+8@
                       @@+#@
                0++00000++00
                @@*+++++
                 000000
Choose your weapon:
1. Rock
2. Paper
3. Scissors
Round 5: Computer wins : (
The computer wins : ( womp womp
Total Rounds: 5
Average rounds per contestant: 5
Total ties: 0
```

Tips for ASCII Art

- For text, you can use https://patorjk.com/software/taag/#p=display&f=Graffiti&t=Type%20Something%20
- For image to ASCII, you can use https://www.asciiart.eu/image-to-ascii
- You will have to copy the ASCII art and then paste it in your source file. Then, you will need to make each line a cout statement with an endline or newline at the end of each line.
- Then, you will need to escape all characters that are ', ", or \. (More information on this here: https://en.cppreference.com/w/cpp/language/escape)

Part 2: Fill Out the Lab Report

You will fill out this lab report for every lab and it is part of your grade. To get credit, you must upload a screenshot of the confirmation page to this lab assignment. Name your screenshot lab5ReportProof.

Lab Report Link: https://tntech.co1.qualtrics.com/jfe/form/SV d6BGc6kzQdSvBmS

What to Turn In

Create a zip file named **lusername_lab5** containing the following .cpp files and upload it to ilearn. Replace labPartner1username with your TTU username. Example: acrockett43 lab5.zip

- lab5.cpp
- lab5ReportProof

Remember to download and check your .zip file to make sure that it includes your .cpp and lab report proof.

Stewart, Cal. Personal Interview. 9 Sept. 2024