Instructions:

- Call my project in the terminal by saying python3 beer_pong.py
- If you enter any incorrect values as inputs, the program will let you know
- Correct input values are as follows:
    - Alcohol type: wine, beer, water, or liquor
    - Player name: Any string
    - Player gender: female or male
    - Player weight: for females, any increment of ten from 100 to 240 lbs and for males, any increment of ten from 110 to 250 lbs.
    - Player skill level: any integer from 1 to 10 (10 is the highest)
    - Which team is starting first: 1 or 2
    - Cup positions to aim at: Look at Cup Position Guide PDF to see all possible integer positions you can aim at. You cannot aim at a cup that has already been hit
    - Reracks
        - With 6 cups: 6 triangle
        - With 5 cups: zipper
        - With 4 cups: diamond
        - With 3 cups: stoplight or 3 triangle
        - With 2 cups: gentleman's

Beer Pong Rules:

- 2 players on each team
- 2 teams
- Starting team is determined by players at the beginning of the game
- Both players on the team shoot before giving their balls to the other team
    - No 'balls back' or 'fire shooting' (only important if you know what this is)
- Once teams have between 2 and 6 cups remaining, they can request a rerack to change the cups' positions
    - Reracks can only be requested at the beginning of a team's turn, not in the middle of a turn
    - Only 2 reracks per team per game
    - Cup positions change after a rerack, view the Cup Position Guide PDF for assistance on this
- The first team to hit all the cups wins

Project Scope

- 5 classes were created: balls, cups, players, teams, and drinks
- 4 functions outside of classes were created
- A script to run the game was created
- A Cup Position Guide PDF assists users when using the game
- The reflection document explains rules and additional project details
- Total lines of code (including whitespace and comments) is about 650 lines

Iteration 2.0 of Beer_Pong.py

- In a future iteration of my project, I could look into my formulas for shooting accuracy and how it is affected by a player's BAC. More research on these topics could affect the statistical formulas used to compute shoot accuracy
- A future iteration could include additional rules such as 'islands,' 'balls back,' or 'fire shooting'

- When a player calls 'island' before shooting, if they hit the cup they were aiming at, three cups are removed. If they hit a cup they weren't aiming at, no cups are removed.
  - 'Balls back' occurs if both players on a team make their shot. If they do, they get both ping pong balls back and start their turn again
  - 'Fire shooting' allows a player to get to shoot again after hitting three or more consecutive balls into a cup

Challenges

- This was my first big coding project. The only other coding project that was relative in the level of difficulty was the scrabble homework, which was significantly smaller.
- Overall, I'm very proud of my project and how I used what I learned in class to break my game down into classes, functions, and attributes to create beer pong.
- A main challenge for the project was seeing how everything fit together. Even though there were smaller functionalities that I had to troubleshoot, starting with such a large concept and understanding how to break it down into smaller pieces was something I had never done before.
- The use of classes really helped me break my code into sections that I could then use to start smaller and build from the ground up.