

# Assignment 1

Using your custom sequential containers:

- 1) Create an enum called Stats
  - a. Stats should be Health, Attack, Defense, Stamina, Speed
- 2) Create a class Player
  - a. Player should have a name (std::string is fine)
  - b. Player should have an int Array that contains all of the stats in the enum
  - c. There should be a function to Initialize the player with default values
    - i. Health = 100
    - ii. The rest of the stats are random from 1-5
  - d. There should be a function to get the stat value for a specific stat
- 3) Main flow
  - a. Create a Vector of players
  - b. Add 10 players with random names
  - c. Display the names of all the players and all of their stats
  - d. Remove 6 players
  - e. Add up to a total of 20 players (max out at 20) and display all the new names
  - f. Pick a random 2 Players, compare their stats to see who would win a fight
    - i.  $\text{PlayerA}(\text{Attack} * \text{Stamina}) - \text{PlayerB}(\text{Defense} * \text{Speed}) / \text{PlayerB}(\text{Health})$
    - ii. Reverse the calculation for the players
    - iii. Whoever has the most health wins
    - iv. If there is a tie, flip a coin