README

This is a 2 player version of Battleship coded for Project 1 of EECS 448 coded in C++. It will run in the terminal. If using Linux, a makefile is included (command: “make”), if not, compiling the .cpp classes using “g++ -o prog \*.cpp” will also work to produce a program executable.

Html documentation: To access the html go to the ‘documentation’ folder and then the ‘html’ folder in the main github repository. After you are inside the folder select the ‘index.html’ file and a browser will open the file (documentation -> html -> ‘index.html’ ). Once you access the file in the browser, a menu will be on the left side where you can scroll through classes, members, public/private attributes, variables and parameters.

How the project works is as follows:

1. Game Setup
   1. Board size
      1. 10x10
      2. The columns are denoted by letters (A-J)
      3. The rows are denoted by number (1-10)
   2. Number of ships (per player)
      1. Given by user
      2. Minimum of 1 and a maximum of 6
   3. Types of ships
      1. This will be based on the amount of ships chosen.
      2. If a total of 1 ship is chosen, then each player gets a single 1x1 ship
      3. If a total of 2 ships is chosen, then each player gets a 1x1 and a 1x2 ship
      4. This continues up to 6, where each player will a 1x1, 1x2, 1x3, 1x4, and a 1x6 ship
      5. Ships are denoted by ‘o’ on the board.
   4. Ship placement
      1. After the amount of ships is chosen, players are able to secretly orient and place the ships on their board.
2. Playing the Game
   1. Each player will have 2 boards. A ship board and a shot board.
   2. Taking turns, players will pick a space on the opponent's board to "fire" at.
   3. They are then informed if the shot was a "hit" or a "miss".
   4. The player's shot board is updated to reflect this.
   5. The shot board will show a ‘0’ if the shot missed or an ‘X’ if the shot hit. Similarly, the ship board will show an ‘!’ if the opponent’s shot hit the ship.
   6. After each shot, it is the other player's turn.
3. Destroying a ship
   1. Once a ship has been hit in every space it occupies, it is sunk.
   2. For example, if the 1x3 ship occupies the space B3, B4, and B5.
   3. Once the opponent has shot those three spaces, that ship is sunk.
4. Game End
   1. Once a player has sunk all of the opponent's ships, they immediately win.