

Programming Project / C++

Battleship Game

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I. Task Description

Student 1 is responsible for setting up the game by placing the ships on a file.

Student 2 is responsible for the game functionality, such as attacking the computer board, creating a random coordinate for the computer, updating the boards and checking who the winner is.

II. Data Structures Used by the Team

The following classes will be used:

- Board: `char grid[n][n]`
- Ship: `vector<string> coordinates;`
- `setupInfo`:
 - `int game_ongoing;`
 - `int ship5_placed;`
 - `int ship4_placed;`
 - `int ship3_1_placed;`
 - `int ship3_2_placed;`
 - `int ship2_placed;`

III. File Structure

The following files will be used:

Board1.txt
Board2.txt
attackHistory.txt
setup_info.txt

IV. Interacting with Executables

App1: `setup_game`

`./setup_game help`
- prints manual

`./setup_game new_game`

- clears the boards

`./setup_game place <ship_coords1> <ship_coords2>`

- places a ship on the board
- also places a ship randomly for the computer

`./setup_game reveal`

- prints player and computer boards

App2: `./applyAttack`

`./applyAttack <player1_attack_coord> <board1_file> <board2_file>`

- attacks the computer board on the specific coordinate