

Milestone 3: CRC Cards

The Quintet

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Game

- Initializes battlefields (boards) for player1 and player2*
- Initializes player2
- Initializes players to place their ships
- Gives ship placement coordinates to players battlefield
- Gives players their turns
- Gives attack coordinates to opponents battlefield
- Reports result of each turn to player1
- Ends game

- Battlefield
- Battleship
- InitialInputCoordinate
- AttackInputCoordinate
- player2

*player2 is a computer program written to play against player1

Battlefield

- Initialize grid that will contain state of each coordinate
- Places ships on each player's grid
- Implements attack
- Changes status of coordinate after attack
- Prints players and opponents board
- Implements sonar attack
- Prints out sonar attack values
- Returns results of attack

- Game

Battleship

- Contains ship name and length
- Contains ship horizontal and vertical look up tables

- Game
- Ship_LUT

Player2

- Initializes player2's attack_LUT
- Randomly chooses ship placement from ship's LUT
- Randomly chooses attack coordinate from attack_LUT
- Removes used attack coordinates from attack_LUT

- Game
- LUT

LUT

- Creates a selection of valid attack coordinates for player2 to choose from

Subclasses: Ship_LUT

- Player2

Ship_LUT

- Creates selection of valid ship placements given direction and length

Superclass: LUT

- Ship

InputCoordinate

- Keeps track on input coordinate
- Checks that input coordinate is on board
- Returns transformed coordinates

Subclasses: InitialInputCoordinate,
AttackInputCoordinate

- None

InitialInputCoordinate

- Receives direction for ship placement
- Receives initial coordinate for ship placement
- Checks direction input
- Determines all coordinates the ship will occupy
- Verifies entire ship will be on board
- Asks for input until user input is valid
- Returns transformed coordinates to game

Superclass: InputCoordinate

- Game

AttackInputCoordinate

- Receives user input on attack coordinates
- Asks for user input until input is valid
- Returns attack transformed coordinates to game

Superclass: InputCoordinate

- Game