Battleship

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- Board + Ship interaction

- Ships will have to know:
  - How many spots they are sunk
  - If they are hit

- If ship has been sunk

- Board will have to know:
  - Where ships are
  - How many have been sunk
  - How many have been hit
  - If a spot has already been chosen
  - Will have to be data field showing if Game has been won

- Board setup
  - Using a tuple dictionary where keys are coordinates and each coordinate is mapped to either:

Ex: {(0,0): 'O'}

'O' for miss
'.' for not selected
'*' for hit
'X' for Sunken ship

- Data field for Ship as Dictionary
  - {'Cruiser': 'Sunk'}

- Function to check how many ships left on the board if no ships left → Game is over → Could also work as boolean changed to false when game is over.

- Function to check if move is valid

- Ship Setup
  - Function to check if ship has been sunk to change all positions to 'X'
  - Function to mark a hit?
    ↑ This could be done by board though
  - Data field that holds what kind of ship object is
  - Function to tell what spots are left to hit on ship
  - Function to sink a ship
    Boolean change to False

- Functions will access Board to change the main Ship Dictionary when something is hit, and vice versa when ship object knows it has been chosen.

- Printing Board

  - A 2-D loop that prints out each row according to the user.
    - If current coordinate is not in the Ship dictionary '.' will print out.

    - If Ship is in dictionary. Then the letter attributed with that Ship will print out.

for y value in grid:
    for x value in grid:

        current_coord = (x, y)

        Check to see if current coord is in Ship Dict

        Else print '.'

- Interaction * Important

  - Ship will have functions that are called board object to update which spots are invalid in that big Ship Dictionary

  * - The Ship Dictionary is the key to interaction