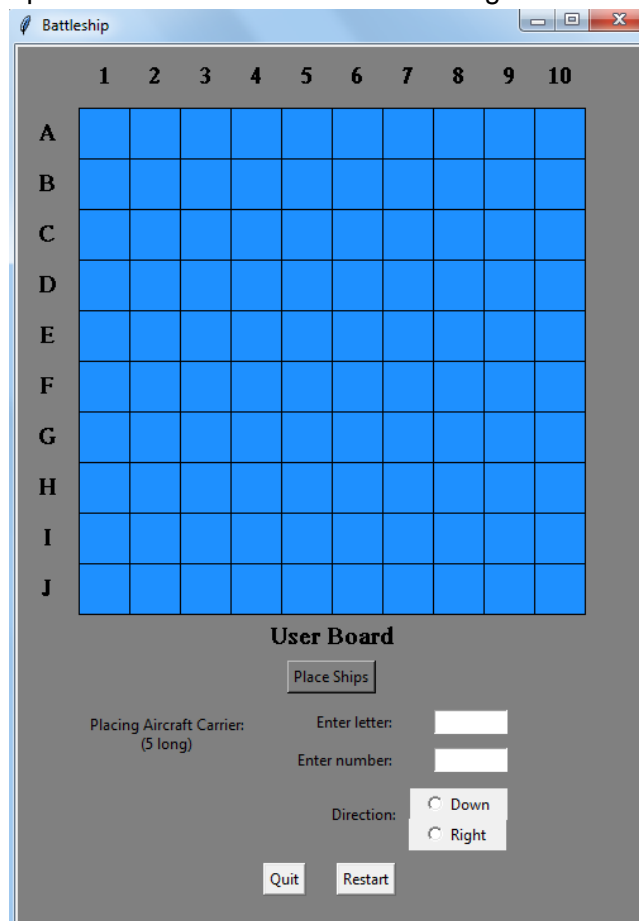


## CS 110 Project Battleship

This program is a rendition of the popular turn-based game, Battleship. The player places their ships on a 10x10 grid and their objective is to destroy their opponent's fleets by guessing which coordinate locations to fire at. Each ship occupies a certain number of squares on the grid and each square has their own specific coordinates.

Before the game begins, the player places their ships on the grid by selecting their orientation ("Down" for vertical or "Right" for horizontal) and entering the specific row letter and column number to form their coordinate locations. Only one ship can occupy each square/coordinate-location on the grid, and cannot overlap with other ships. A ship also cannot be placed if it occupies space outside the boundaries of the grid.



There are five types of ships in the game that you will be prompted to place:

Aircraft Carriers (5 squares long)

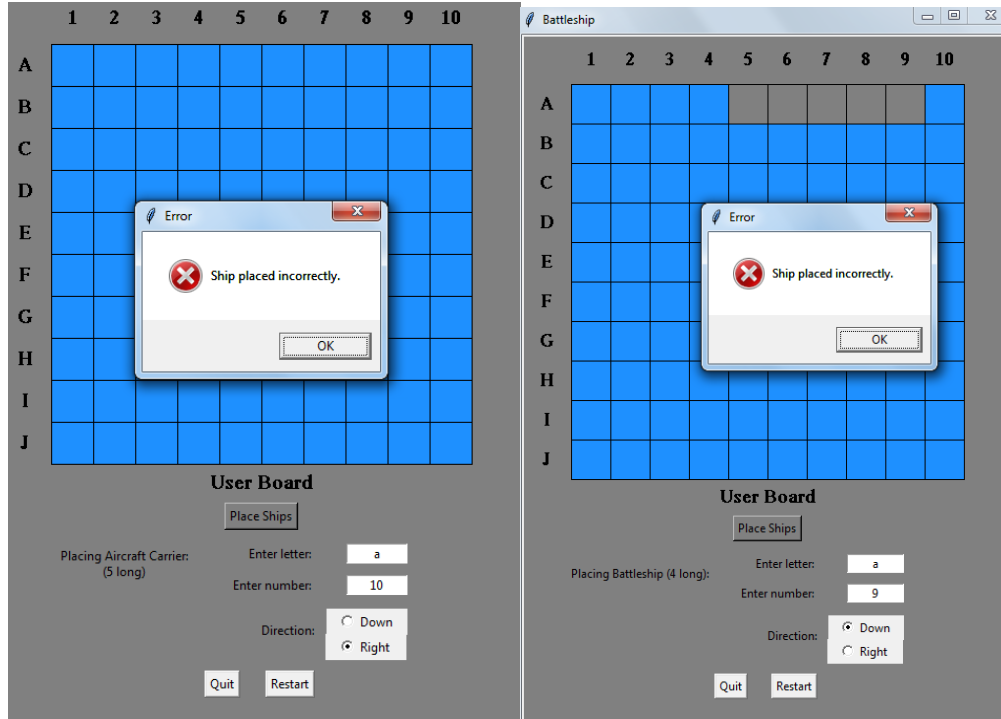
Battleships(4 squares long)

Submarines(3 squares long)

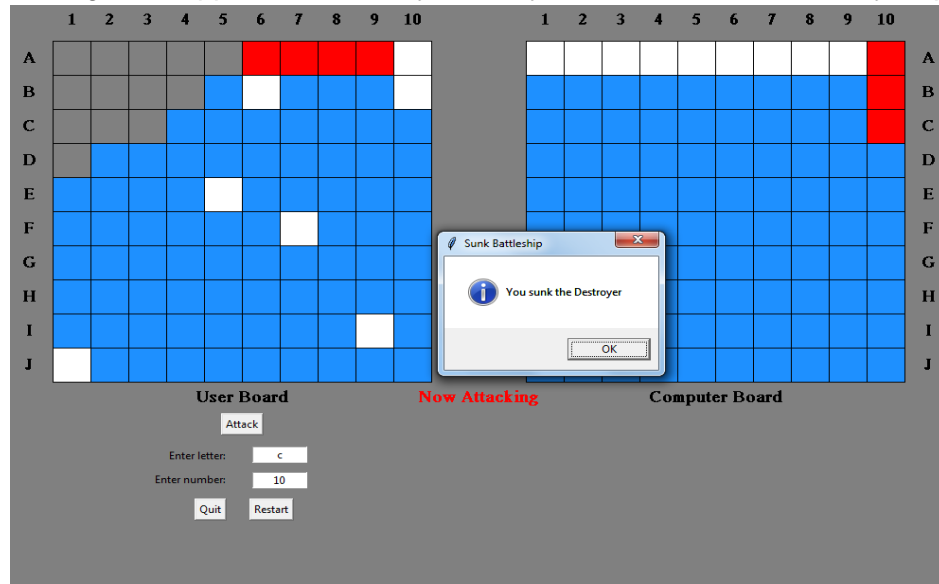
Destroyers(3 squares long)

Patrol boats(2 squares long)

Upon entering your ships, the game begins. The player then guesses coordinates where he or she may think the enemy's ships are. Coordinates are entered and then the attack button is clicked. On your board, your ships are the grey boxes. If the ship is hit, the square color changes from its original blue to a red color. If you guess and miss a ship, the color changes from blue to white.



An error will occur if you attempt to place a ship in a location that will not fit the grid's boundaries or a location that has already been occupied by another ship. A separate grid will display the locations that you've hit or missed. Upon destroying a ship, a message box appears to inform you that you have sunken an enemy ship.



The game ends when either the player or their opponent no longer has any ships. Whoever destroys all of their opponent's ships is the victor. Once the game is over, a message box will display statistics for the player (amount of shots fired, amount of hits, and hit percentage). The player has the option to quit or restart the game at any time.

The screenshot displays a Battleship game interface with two 10x10 grids. The left grid, labeled 'User Board', shows a red ship at the top (A1-A5) and a blue ship at the bottom (J1-J10). The right grid, labeled 'Computer Board', shows a red ship at the top (A1-A6) and a blue ship at the bottom (J1-J10). A central dialog box titled 'Loser' contains the following text: 'You lost. Statistics: Hits: 9, Shots: 58, Percent hit: 15.517241%'. Below the boards, there is an 'Attack' button, input fields for 'Enter letter: f' and 'Enter number: 4', and 'Quit' and 'Restart' buttons. The text 'Now Attacking' is displayed in red between the boards.

	1	2	3	4	5	6	7	8	9	10
A	Red	Red	Red	Red	Red			Blue		
B	Red	Red	Red	Red	Red	Blue		Blue	Blue	
C	Red	Red	Red	Red			Blue	Blue	Blue	Blue
D	Red	Red								
E	Red				Blue	Blue	Blue			
F		Blue	Blue	Blue						
G	Blue	Blue	Blue			Blue	Blue			
H		Blue		Blue		Blue	Blue	Blue	Blue	Blue
I	Blue	Blue		Blue				Blue	Blue	Blue
J		Blue	Blue		Blue	Blue	Blue	Blue	Blue	Blue

	1	2	3	4	5	6	7	8	9	10
A	Red	Red	Red	Red	Red	Red				
B										
C										
D										
E									Red	Red
F						Blue	Blue			
G	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
H	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
I	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
J	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue

**User Board** Now Attacking **Computer Board**

Attack

Enter letter:

Enter number:

Quit Restart

Loser

You lost.

Statistics:

Hits: 9

Shots: 58

Percent hit: 15.517241%

OK