**Files to modify:**

fleet.h fleet.cpp

TextGraphics.h TextGraphics.cpp

safeio.h safeio.cpp

SinkTheFleet.cpp

**Data Structures:**

**Direction** - *Enum*

HORIZONTAL, VERTICAL

**Ship** - *Enum*

NOSHIP, MINESWEEPER, SUB, FRIGATE, BATTLESHIP, CARRIER, HIT, MISSED

**Cell** - *Struct*

**m\_row** - unsigned short - The row of the cell

**m\_col** - unsigned short - The col of the cell

**ShipInfo** - *Struct*

**m\_name** - Ship - The type of ship

**m\_orientation** - Direction - The direction the ship is facing

**m\_bowLocation** - Cell - The cell the bow is located

**m\_piecesLeft** - short - Number of sections left undestroyed on the ship

**Player** - *Struct*

**m\_gameGrid** - Ship\*\* - The players grid of ships and the record of shots fired -- marking hits and misses

**m\_ships** - ShipInfo[6] - The ships in the fleet

**m\_piecesLeft** - Short - Number of sections left undestroyed in the fleet

**TODO’s:**

main(void)

printGrid(ostream& sout, Ship\*\* grid, char size)

setships(Player players[], char size, short whichPlayer)

saveGrid(Player players[], short whichPlayer, char size)

loadGridFromFile(Player players[], short whichPlayer, char size, string filename)

ifValidLocation(const Player& player, short shipNumber, char size)

allocMem(Player players[], char size)

deleteMem(Player players[], char size)

**Tests:**

Ships extending out-of-bounds

Ships overlapping other ships

Reading in from files

File should exist

File should not be malformed

Firing out-of-bounds

Firing twice in same spot