**Project 2 Part B (additional tests)**

**Arguments**

Test #1: Arguments - Test wrong number of arguments [insufficient] – **PASS**

./project2b.exe

Invalid number of arguments - terminating program.

Test #2: Arguments – Test wrong number of arguments [more than possible] – **Fail**

Passes through entire game and reaches end condition

./project2b.exe humanmap.txt computermap.txt 1 2 3

Battleship

Rules: you alternate turns with a computer opponent, choosing locations to attack. Each turn results in a hit or a miss. The game ends when one of the player's ships are all sunk.

Congratulations, you have won the game!

Test #3: Arguments – First turn Human – **PASS**

./project2b.exe humanmap.txt computermap.txt HUMAN

Battleship

Rules: you alternate turns with a computer opponent, choosing locations to attack. Each turn results in a hit or a miss. The game ends when one of the player's ships are all sunk.

0 1 2 3 4 5 6 7 8 9

A o o o o o o o o o o

B o o o o o o o o o o

C o o o o o o o o o o

D o o o o o o o o o o

E o o o o o o o o o o

F o o o o o o o o o o

G o o o o o o o o o o

H o o o o o o o o o o

I o o o o o o o o o o

J o o o o o o o o o o

Test #4: Arguments – Random Turn – **PASS**

Results in Computer going first

./project2b.exe humanmap.txt computermap.txt

Battleship

Rules: you alternate turns with a computer opponent, choosing locations to attack. Each turn results in a hit or a miss. The game ends when one of the player's ships are all sunk.

Random Guess: C 5

Computer Guessed: C 5

Computer player: Miss

0 1 2 3 4 5 6 7 8 9

A o o o o o o o o o o

B o o o o o o o o o o

C o o o o o o o o o o

D o o o o o o o o o o

E o o o o o o o o o o

F o o o o o o o o o o

G o o o o o o o o o o

H o o o o o o o o o o

I o o o o o o o o o o

J o o o o o o o o o o

Test #5: Arguments – Random Turn – **PASS**

Results in Human going first

./project2b.exe humanmap.txt computermap.txt

Battleship

Rules: you alternate turns with a computer opponent, choosing locations to attack. Each turn results in a hit or a miss. The game ends when one of the player's ships are all sunk.

0 1 2 3 4 5 6 7 8 9

A o o o o o o o o o o

B o o o o o o o o o o

C o o o o o o o o o o

D o o o o o o o o o o

E o o o o o o o o o o

F o o o o o o o o o o

G o o o o o o o o o o

H o o o o o o o o o o

I o o o o o o o o o o

J o o o o o o o o o o

Test #6: Arguments – Test non existent map file or map file with issue – **Pass**

./project2b.exe fakemap1.txt fakemap2.txt

Battleship

Rules: you alternate turns with a computer opponent, choosing locations to attack. Each turn results in a hit or a miss. The game ends when one of the player's ships are all sunk.

An error occurred, please input another GameBoard file:

Test #7: Arguments – First turn Computer – **PASS**

./project2b.exe humanmap.txt computermap.txt COMPUTER

Battleship

Rules: you alternate turns with a computer opponent, choosing locations to attack. Each turn results in a hit or a miss. The game ends when one of the player's ships are all sunk.

Random Guess: G 8

Computer Guessed: G 8

Computer player: Miss

0 1 2 3 4 5 6 7 8 9

A o o o o o o o o o o

B o o o o o o o o o o

C o o o o o o o o o o

D o o o o o o o o o o

E o o o o o o o o o o

F o o o o o o o o o o

G o o o o o o o o o o

H o o o o o o o o o o

I o o o o o o o o o o

J o o o o o o o o o o

Where would you like to attack? (row column) (ex: A 1)

**Queue Creation**

Test #1: Queue – Correct Queue creation/positions – **PASS**

Computer Guessed: F 5

Computer player: Hit

Subsequent Queue:

E5 //above

F6 //right

G5 //below

F4 / /left

Test #2: Queue – Hits on the edge of the board – **PASS**

Created a board with pieces only on the borders to test to see if the queue does not accept coordinates outside the board dimensions

Computer Guessed: A 2

Computer player: Hit

Subsequent Queue:

//missing above which is correct

A 3 //right

B 2 //below

A 1 //left

Computer Guessed: A 0

Computer player: Hit

Subsequent Queue:

//missing above which is correct

A 1 //right

B 0 //below

Test #3: Queue – Doesn’t add already hit positions to a queue – **Pass**

Added map with all sections marked as a Hit so nothing should be pushed to the queue

./project2b.exe allhitsmap.txt computermap.txt

Battleship

Rules: you alternate turns with a computer opponent, choosing locations to attack. Each turn results in a hit or a miss. The game ends when one of the player's ships are all sunk.

Random Guess: F 9

Computer Guessed: F 9

Computer player: Hit

0 1 2 3 4 5 6 7 8 9

A o o o o o o o o o o

B o o o o o o o o o o

C o o o o o o o o o o

D o o o o o o o o o o

E o o o o o o o o o o

F o o o o o o o o o o

G o o o o o o o o o o

H o o o o o o o o o o

I o o o o o o o o o o

J o o o o o o o o o o

Where would you like to attack? (row column) (ex: A 1) A 0

You have hit a ship!

Queue Size: //<- nothing added to queue from first successful hit

Random Guess from loop: G 6

Computer Guessed: G 6

Computer player: Hit

0 1 2 3 4 5 6 7 8 9

A H o o o o o o o o o

B o o o o o o o o o o

C o o o o o o o o o o

D o o o o o o o o o o

E o o o o o o o o o o

F o o o o o o o o o o

G o o o o o o o o o o

H o o o o o o o o o o

I o o o o o o o o o o

J o o o o o o o o o o

Where would you like to attack? (row column) (ex: A 1) A 1

You have hit a ship!

Queue Size: //<- nothing added to queue from second successful hit

Random Guess from loop: E 1

Computer Guessed: E 1

Computer player: Hit

0 1 2 3 4 5 6 7 8 9

A H H o o o o o o o o

B o o o o o o o o o o

C o o o o o o o o o o

D o o o o o o o o o o

E o o o o o o o o o o

F o o o o o o o o o o

G o o o o o o o o o o

H o o o o o o o o o o

I o o o o o o o o o o

J o o o o o o o o o o

**Win Condition**

Test #1: Win Condition - Computer Wins– **PASS**

Note: Artificially changed number of ship sections to 2 to make game shorter.

Also the test passed, but there’s no conditional test being done on the win condition mid loop so after you sink the last ship section the remaining player has one more attack. This could be remedied with an if statement/conditional added inside the loop after each turn.

Random Guess: B 3

Computer Guessed: B 3

Computer player: Miss

0 1 2 3 4 5 6 7 8 9

A o o o o o o o o o o

B o o o o o o o o o o

C o o o o o o o o o o

D o o o o o o o o o o

E o o o o o o o o o o

F o o o o o o o o o o

G o o o o o o o o o o

H o o o o o o o o o o

I o o o o o o o o o o

J o o o o o o o o o M

Where would you like to attack? (row column) (ex: A 1) J 9

Random Guess: F 2

Computer Guessed: F 2

Computer player: Hit

0 1 2 3 4 5 6 7 8 9

A o o o o o o o o o o

B o o o o o o o o o o

C o o o o o o o o o o

D o o o o o o o o o o

E o o o o o o o o o o

F o o o o o o o o o o

G o o o o o o o o o o

H o o o o o o o o o o

I o o o o o o o o o o

J o o o o o o o o o M

Where would you like to attack? (row column) (ex: A 1) J 9

You lose!

Test #2: Win Condition - Human Wins– **PASS**

Note: Artificially changed number of ship sections to 2 to make game shorter

Battleship

Rules: you alternate turns with a computer opponent, choosing locations to attack. Each turn results in a hit or a miss. The game ends when one of the player's ships are all sunk.

Random Guess: B 1

Computer Guessed: B 1

Computer player: Miss

0 1 2 3 4 5 6 7 8 9

A o o o o o o o o o o

B o o o o o o o o o o

C o o o o o o o o o o

D o o o o o o o o o o

E o o o o o o o o o o

F o o o o o o o o o o

G o o o o o o o o o o

H o o o o o o o o o o

I o o o o o o o o o o

J o o o o o o o o o o

Where would you like to attack? (row column) (ex: A 1) A 0

You have hit a ship!

Congratulations, you have won the game!