Manual Testing Documentation

- This document covers any aspects of the game that we could not write tests for in JUnit
    - This is mainly due to time constraints, or having to prioritise other aspects of the project
    - The mitigation was to make these manual tests, to ensure that some form of testing was still taking place
- There is a set amount of steps for each test that we would follow to confirm if something was working correctly or not
- An important point to note is that any UI-related code in the LibGDX library cannot be tested, so had to be manually tested.

Ship Movement Test

1. Press the "Play" button on the menu screen to begin the game.
2. Hold the W button to move the ship north.
3. Hold the A button to move the ship west.
4. Hold the S button to move the ship south.
5. Hold the D button to move the ship to the east.
6. Hold the W and A buttons to move the ship in a north western direction.
7. Hold the A and S buttons to move the ship in a south western direction.
8. Hold the W and D buttons to move the ship in a north eastern direction.
9. Hold the S and D buttons to move the ship in a south eastern direction.
10. Confirm that the ship moves in the correct direction when the WASD buttons are pressed.

Chests Test

1. Press the "Play" button on the menu screen to start the game.
2. Move the ship around the map until a chest is found.
3. Move the ship into the chest.
4. The chest should disappear and 100 points should be added to the player's plunder score.

Obstacles Test

1. Press the "Play" button on the menu screen to start the game.
2. Move the ship around until an obstacle on the map is found
3. Move the ship into the obstacle
4. The health icon should display a decrease of 10

Cannon Firing Test

1. Press the "Play" button to start the game.
2. Press the Spacebar to fire cannon balls in the direction the ship is facing.
3. Press the left mouse button to fire cannonballs in the direction of the cursor.
4. The cannon balls should fire in the directions described in step 3 and the number of cannonballs available to the player should decrease by 1 for each cannon fired.

Ship Combat Test

1. Press the "Play" button on the menu screen to start the game.
2. Move the player ship around the map until enemy ships are found.
3. The enemy ships should attack the player ship with cannon fire.
4. Upon destroying the enemy ships, the player's plunder and points score should increase by 10, and the ship should disappear.

College Combat Test

1. Press the "Play" button on the menu screen to start the game.
2. Move the player ship towards an enemy College.
3. Destroy the enemy college ships and fire cannonballs at all the college buildings.
4. The players points and plunder should increase by

Game Difficulty Test

1. Press the "Difficulty" button on the menu screen.
2. Press the "Easy" Button.
3. Press the "Play" button.
4. The player should have 200 health and 100 cannonballs.
5. Press the Esc key and press the "exit" button.
6. Reload the game, this time choosing the "medium" difficulty.
7. Press the "play" button.
8. The Player should have 100 health and 50 cannonballs.
9. Repeat the process of closing and reopening the game.
10. Choose the "Hard" difficulty and start the game.
11. The player should have 50 health and 25 cannonballs.
12. Verify that the player starts each varying difficulty level with the correct health and cannonballs.

Out of Cannonballs Test

1. Press the "play" button on the menu screen to start the game.
2. Press either the space bar or left mouse button to fire cannon balls until the cannon ball count is at 0.
3. Press the spacebar and left mouse button again and verify that the ship cannot shoot anymore

Player Death Test

1. Press the "play" button on the menu screen to start the game.
2. Move the player ship towards enemy ships.
3. Allow the enemy ships to fire at the player ship.
4. With each cannonball the health of the player ship should decrease by 10 points.
5. Once the health has reached zero, a screen saying "You Have Died" should appear displaying the game statistics with a button to exit the game.
6. Verify that when the "Exit" button is clicked the game window closes.

PowerUps Tests

1. Press the "Play" button on the menu screen to start the game.
2. Destroy some colleges to earn some plunder.
3. Press Z to open the power up menu.
4. Press the "Health Upgrade" button.
5. Verify that the health of the player has increased by 20 and the plunder has decreased by 50.
6. Open the power up menu again and press the "Ammo Upgrade" button.
7. Verify that the number of cannonballs has increased by 5 and the plunder has decreased by 50.
8. Open the power up menu again and press the "Shoot multiple cannonballs" button.
9. Verify that the player ship now shoots 3 cannonballs for every mouse click or spacebar press, and that the plunder has decreased by 100.
10. Open the power up menu again and press the "Increase Speed" button.
11. The player ship should move faster than before, and the plunder should have decreased by 200.
12. Open the power up menu again and press the "Reduce damage taken" button.
13. The player should only lose 5 hearts when struck by an enemy cannon ball.
14. Verify that all the powerups work as expected.

Save/Load Game Test

1. Press the "Play" button on the menu screen to start the game.
2. Attack a college and gain some points and plunder.
3. Press Z to open the pause menu.
4. Press the "save game" button.
5. Reload the game.
6. Press the "Load Game" button on the menu screen.
7. The game should automatically continue where it was saved.
8. The player should have the same health, plunder and cannonballs as before.