COMP3170 Assignment 1 Report

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Your development environment

Please record your eclipse settings and your software & hardware configuration below.

Java JDK version used for compilation	1.8.0_241
Java compiler compliance level used for compilation	1.8
Java JRE version used for execution	1.8.0_241
Eclipse version	2019-12 4.14.0
Your screen dimensions (width x height)	1920 x 1080
Your computer type (Mac/PC)	PC
Your computer make and model	MSI Prestige 15
Your computer Operating System and version	Windows 10 version 1903

Your program features for marking

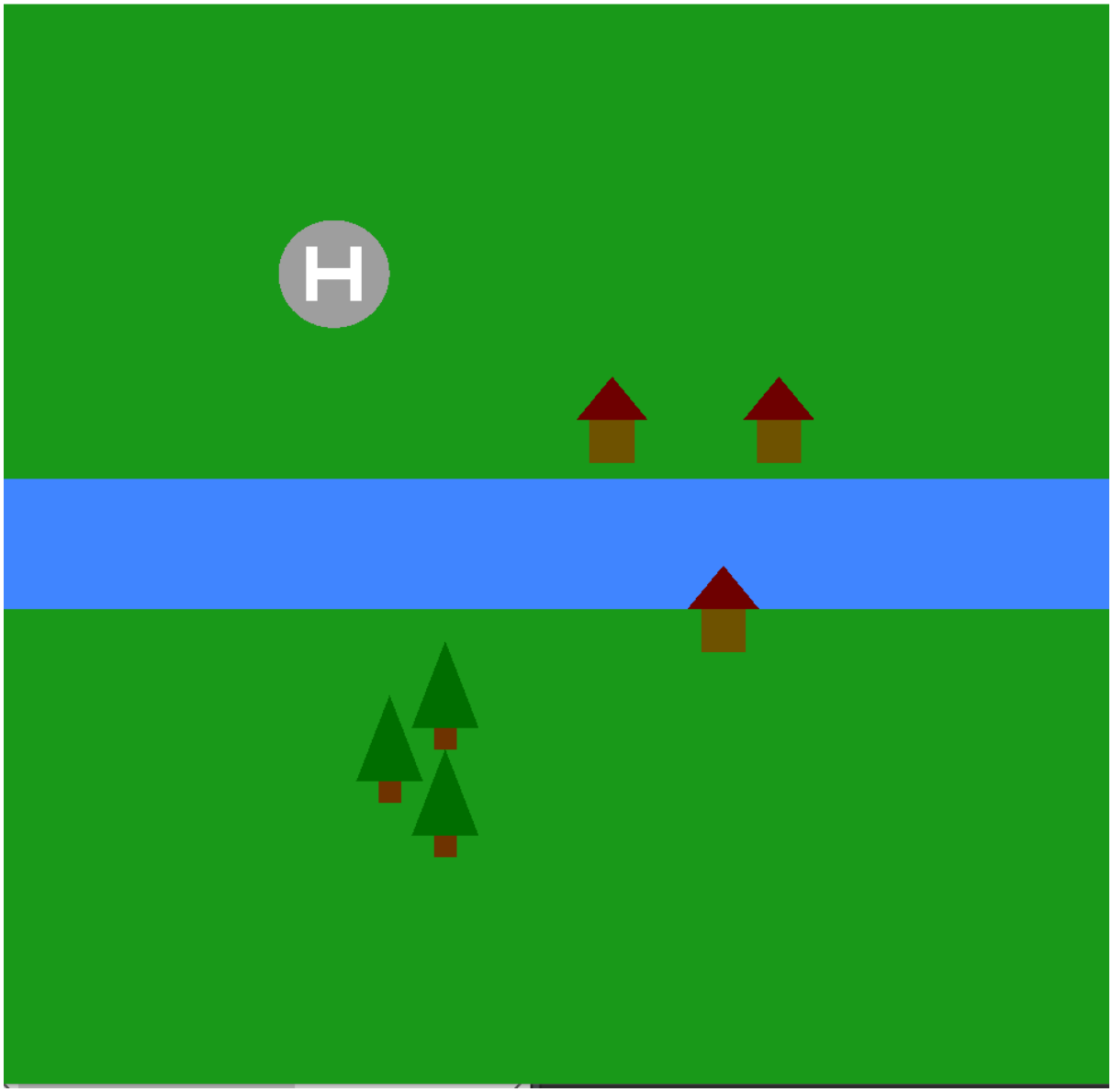
Features to be marked in this assignment. In addition to the required features, select at most three of the optional features for a total mark of 100%.

Feature	**Mark**	**Indicate "Yes" if feature** is **to be marked**
Static 2D terrain: Town, trees, river, helipad	40%	Required - Yes
Moving helicopter with keyboard control	30%	Required - Yes
Helicopter with spinning tandem rotors	10%	Yes
Resizing the canvas, maintaining resolution	10%	
Control helicopter with the mouse	10%	
Take-off and landing at the helipad	10%	Yes
Camera mounted on the helicopter	10%	
Minimap	10%	
Curved rivers	10%	
Heads up display	10%	Yes
Forest using instancing	10%	
TOTAL (max 100%)		

On the following pages you should indicate where each of the above features appear in your program, using screenshots and filenames/line-numbers to indicate where it occurs in your project. Include relevant Java source and shader source file names.

You will not get marks for a feature if your marker cannot easily locate it within your world.

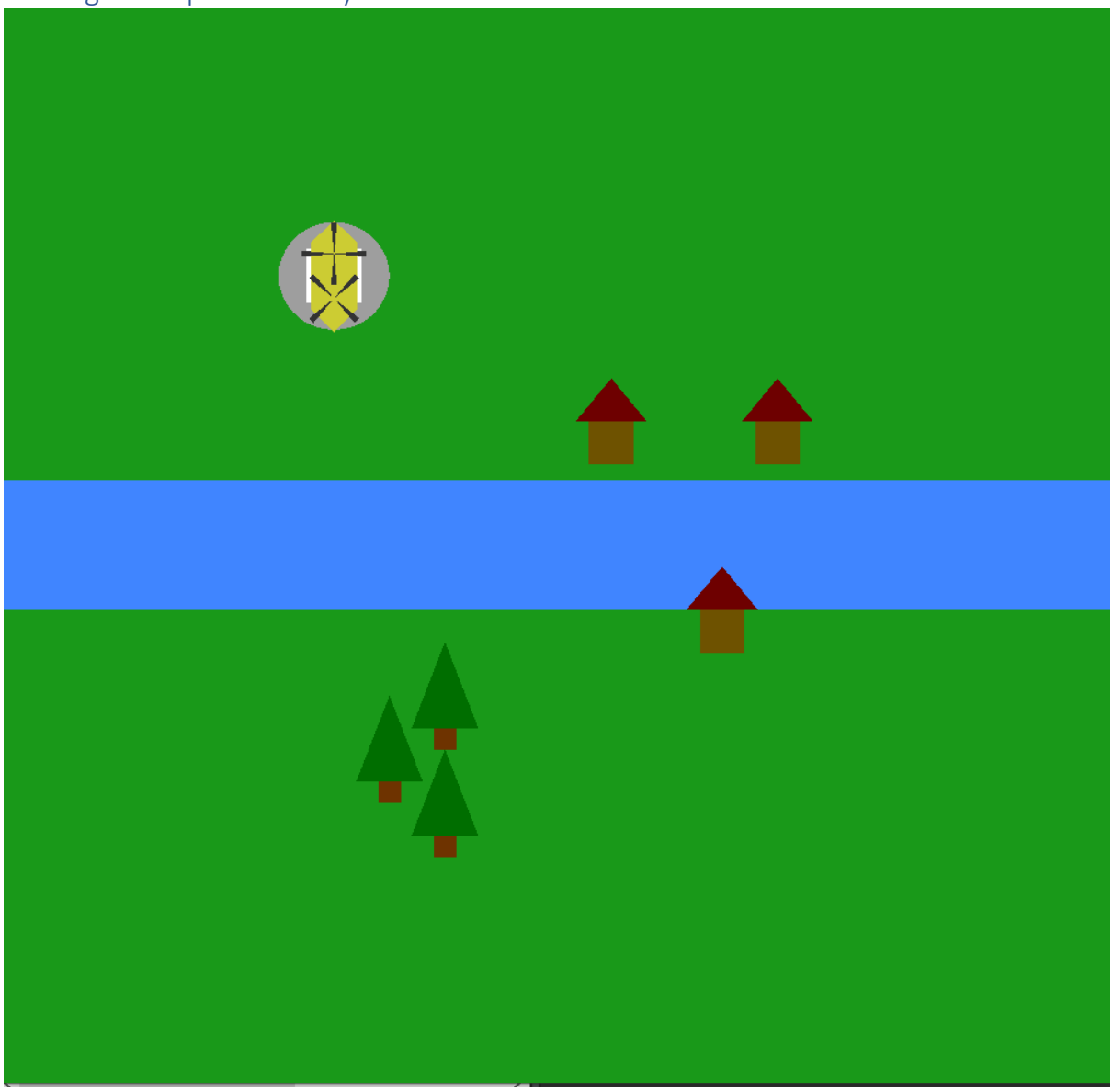
Static Terrain



Implemented in:

- Assignment1.java lines 129 – 166, initializing the drawn objects
- River.java – object for the river
- House.java – object for the houses
- Tree.java – object for the trees
- Helipad.java – object for the helipad
- vertex_terrain.glsl – Vertex shader for terrain drawing
- frag_terrain.glsl – Fragment shader for terrain drawing

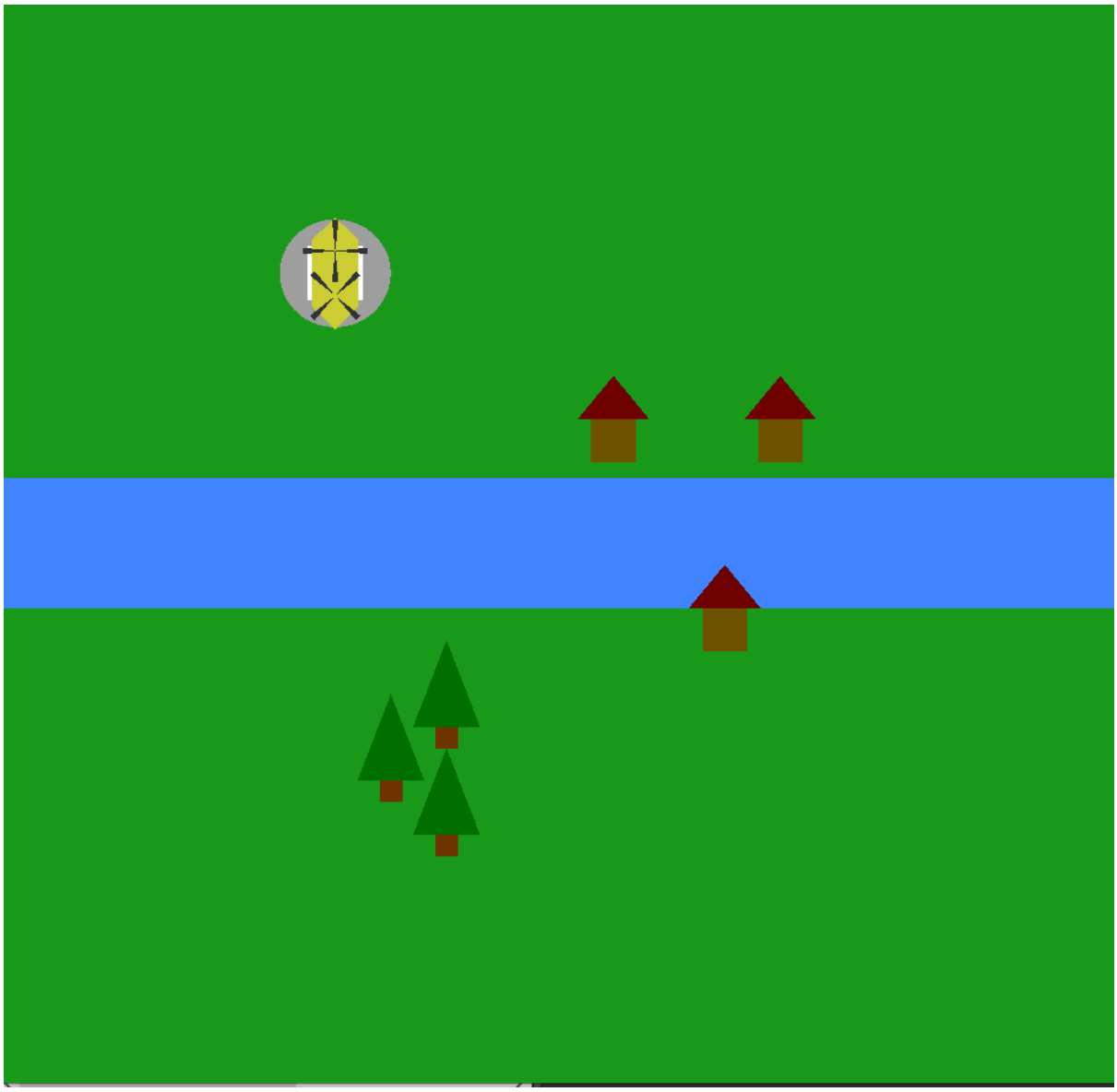
Moving Helicopter with keyboard controls



Implemented in:

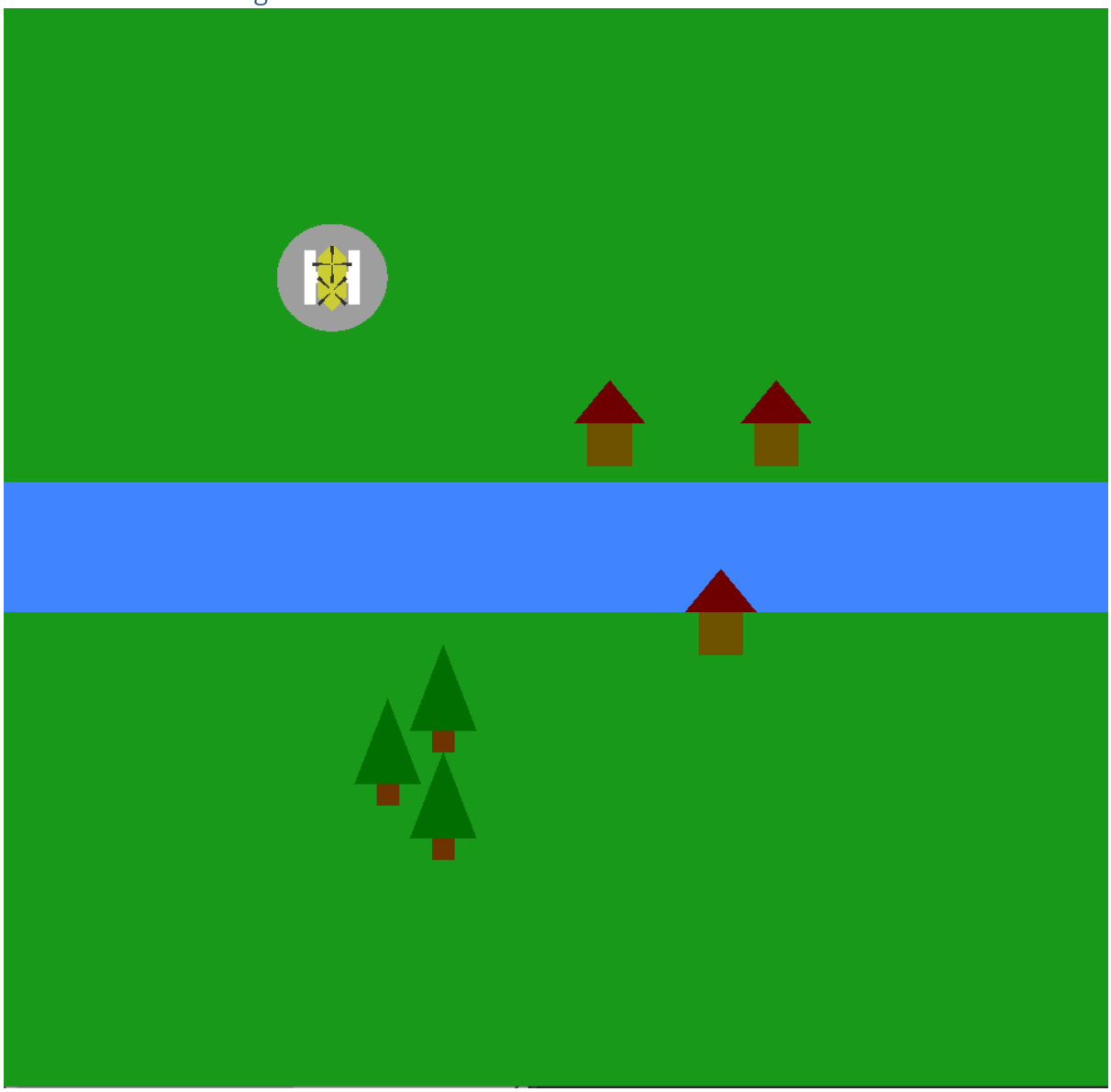
- Assignment1.java – lines 168-183 initialising the helicopter
- Assignment1.java – lines 208 – 241 moving and rotating the helicopter (among other things for later)
- Helicopter.java – object for the helicopter
- Rotor.java – object for the rotors

Tandem Rotors



(same image as you can't see rotors spinning in a picture)
Implemented in:
Assignment1.java – lines 174-183 initialising rotors and setting helicopter as it's parent
Assignment1.java – lines 277-288 rotating the rotors

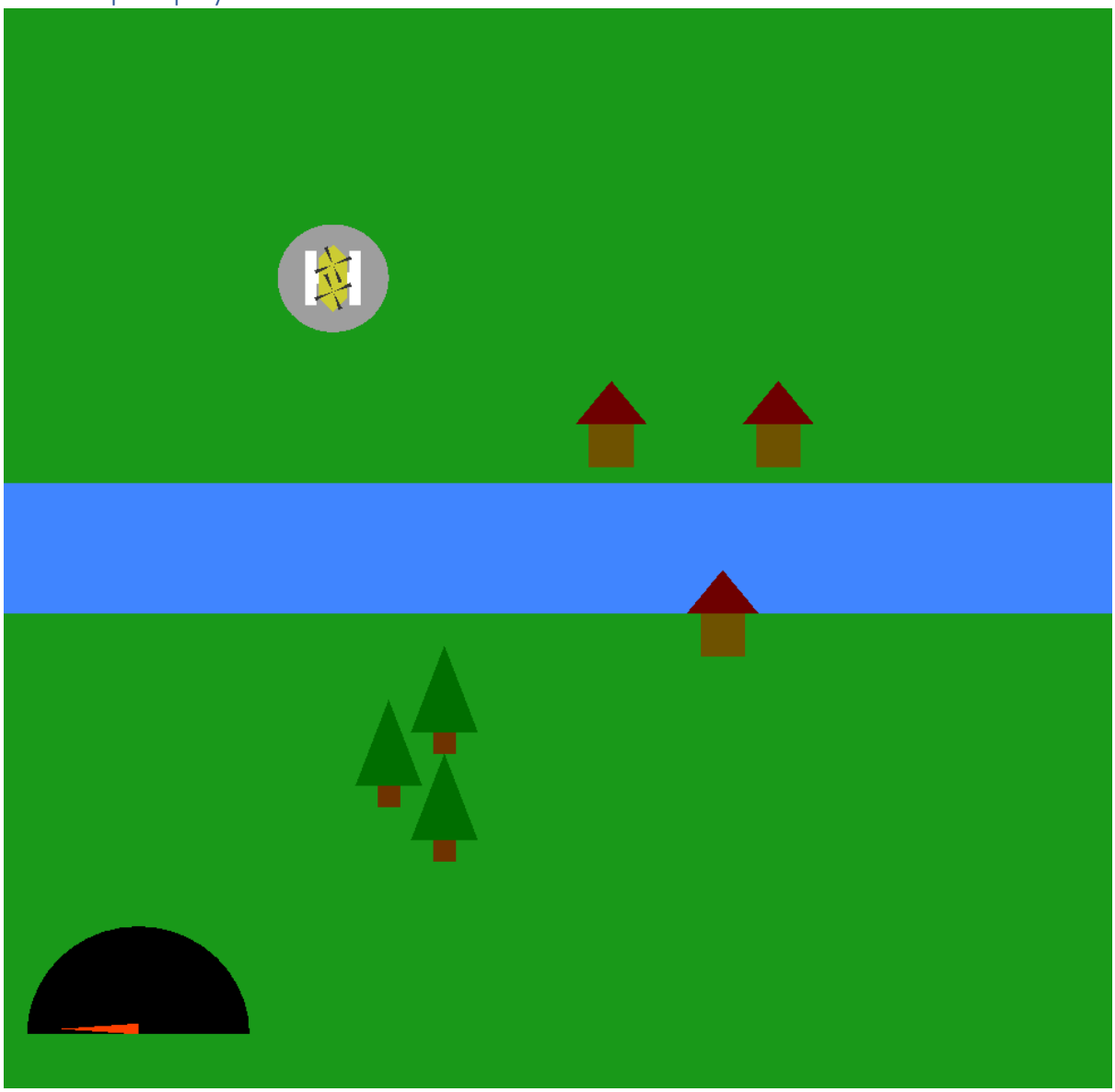
Take off and Landing



Implemented in:

- Assignment1.java – lines 244-275 landing and take off functionality

Heads Up Display



Implemented in:

- Assignment1.java – lines 185 – 193 initialising hud and speedometer
- Assignment1.java – lines 208 - 233 Functionality of hud
- Hud.java – object for the hud
- Speedo.java - object for the speedometer