COMP3170 Assignment 3 Report

|  |  |
| --- | --- |
| Name | Kriti Chawla |
| Student ID | 44678134 |

## Your development environment

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

|  |  |
| --- | --- |
| Java JDK version used for compilation | 13 |
| Java compiler compliance level used for compilation | 13 |
| Java JRE version used for execution | 13 |
| Eclipse version | 2019 |
| Your screen dimensions (width x height) | 15’ – 1000x1000 |
| Your computer type (Mac/PC) | Mac |
| Your computer make and model | MacBook Pro 15’ |
| Your computer Operating System and version | MacOS Catalina |

## 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 |
| Terrain: Height map mesh generation | 40% | Yes |
| Terrain: Diffuse & ambient lighting | 20% |  |
| Terrain: Single texture | 10% |  |
| Terrain: Texture blending | 5% |  |
| Water: Diffuse & ambient lighting | 5% |  |
| Water: Transparency | 5% |  |
| Water: Specular lighting | 10% |  |
| Water: Ripple effect | 5% |  |
| Fly-through camera | 5% | Yes |
| Animated sun | 5% |  |

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.

## Terrain: Height Map mesh generation

A screenshot of a cell phone

Description automatically generated

Implemented in:

* HeightMap.java:1-20 – mesh generation
* mapVertex.glsl – Vertex shader for terrain drawing
* mapFragment.glsl – Fragment shader for terrain drawing

NOTE: These file names are for illustration only. Your project does not have to include these files.

I found it quite challenging generating the heightmap however I did do my best. The mesh generation for the height can be found under HeightMap.java between lines 47-100.

Control over the camera can be found in the Assignment3.java file between lines 233 – 258.