

## 1.1. Options for unit testing the project

The idea here is to keep the testing and implementation code as separate as possible. Not having this would make the code very difficult to read.

### **Option 1: Make everything public**

By making everything public, we can access the objects properties in separate 'Tester' classes. Then we can completely separate the testing and implementation code. However having everything public is very dangerous, the public variables might get changed accidently and debugging would be a nightmare.

### **Option 2: Duplicate entire project and have 'test' and 'release' versions**

This is similar to option 1, however the test version of the project would be separated. This 'test' version of the project would be the exactly the same as the release version, however it would have all variables and functions as public instead. The release version of the project would have regular public/private functions. However this would mean remaking the test version of the project every time the actual version is changed.

### **Option 3: Add a setter/getter for all private variables**

In terms of danger, this is one step better than making everything public, however it bloats the code even more. This would allow you to create objects in separate class and use the class's setters/getters to test it.

### **Option 4: Have implementation and testing code within the same class, split up into functions.**

In the terrain class there would be a VertexBufferObject test, seeing if a buffer was initialized properly. However in the RockGenerator class the same test was needed, therefore it would be duplicated.

### **Option 5: Use a Tester class having generic testing functions, and also have specific testing functions in their respective classes**

This minimizes test code duplication by having all generic functions in one Tester class. However not everything can be put into a generic testing function, so the testing code is split between the implementation file, and the generic testing file.

This was the best option to use for the project and therefore it was chosen.