Exercise – Operator Overloading

Create a Vector2 class. This should have the class definition in a .h file and implementation in a .cpp file. It should contain the following:

a. Two private float variables called x and y
b. A default constructor that initialises the x and y member variables to zero and a custom constructor that allows the x and y member variables to be initialised when the class is instantiated
c. Interface functions that return the x member variable and the y member variable

This would be the basic structure for the Vector2 class. However, what if we wish to add two Vector2 types together? Add functionality to the + and – operators which allow two Vector2 variables to be added together. This functionality can also be applied to the += and -= operators. These overloaded operators will help to ease the strain caused by repeatedly adding or subtracting Vector2 variables.

In order to compare two Vector2 variables, though, the equivalence operator must also be overloaded. Add functionality to the Vector2 class such that one Vector2 variable can be compared to another Vector2 variable.

The operators overloaded so far are the minimum for getting a basic Vector2 class up and running. What other operators can you think of that can be overloaded? Remember not to get too carried away, as overloaded operators are there to make code easier to understand.