**Exercise**

**Develop the following:**

**1.** Create a class called *Vector* that will represent a two-dimensional mathematical vector object.

**2.** Add member variables to represent the x and y values of the vector.

**3.** Create member functions to add, subtract, multiply and divide two vectors. For example, the add function could look like this:

Vector Add(const Vector& vector2)

{

//add this vector’s xy to the passed vector’s xy values

//return a new vector object

}

**4.** Think of other member functions to add into the class. What else should a vector be doing? If you’re stuck, take a look at how *Unity* manages its *Vector2* object:

<https://docs.unity3d.com/Manual/VectorCookbook.html>

<https://docs.unity3d.com/ScriptReference/Vector2.html>

**5.** Use *operator overloading* to perform the add, subtract, multiply and divide functionality. For example, to add two vectors, we could use the following function:

Vector operator+(const Vector& vector2)

{

//perform vector addition

//return a new vector object

}