Lab 6 – Gravity

1. Download the Vector class from Blackboard and add it to your project. Copy the .cpp and .h into the project directory. This class will give you access to the normalise and magnitude functions discussed/used in the lecture. Alternatively, you could implement them yourself.
2. Create a sprite that demonstrates gravity, similar to the example in the lecture. The sprite should have a starting position near the top of the window, with the bottom of the window acting as a floor.
    a. Add jump functionality to this sprite. On key press, provide an upwards velocity.
    b. Modify the sprite, so on mouse click, its position is set to the mouse's location, still having gravity affect the shape.
3. Create another sprite; this sprite will move from Point A to Point B at a set speed, similar to the lecture example.
    a. Modify the sprite so it constantly moves towards the mouse.
4. Create a third sprite; this sprite should be given a starting position, direction and speed from a mouse drag event. The sprite should be placed at the mouse position at the start of the drag. The direction and length of the drag should give the sprite a direction and speed. The sprite should start moving on completion of the drag event. The sprite should also be affected by gravity. (Think similar to Angry Birds).