**This lab is worth 5% of your final AI4Games grade.**

**Due date October 13th 5pm**

**Lab 5**

On blackboard you will find a VS project called Formation.

This is an extension of the flocking project from before.

In addition to the Flocking and Swarming behaviours, the project implements a circle formation when the ‘c’ key is pressed.

Download and review this project to become familiar with the main components. This is a rudimentary implementation, in that we have not employed a full-blown formation manager or pattern data structure (I have just added a new group behaviour to the flocking and swarming).

**To do:**

1. Modify the code so that many more boids are drawn and see how the algorithm handles them.

* It handles them surprisingly well, it’s a bit slow at the start but after a few seconds it runs fine

1. Change the leader to be a different member of the flock instead of member 0. What is the consequence of this on the formation?

* It just leaves a gap in the formation and its different depending on the leader slot

1. Back in your program from Lab 4, implement your own formation which is activated by pressing a key of your choice.
2. Implement steering functionality for the leader (just like the player character in Lab 3). You should be able to steer the formation using the arrow keys then.
3. Submit zipped project to Blackboard.