Assignment 1: The Flocking Dead - C#

Write a report (pdf or word) in which you answer the questions below. For each question:

1. repeat the question you are answering;
2. explain your approach;
3. describe your answer(s);
4. show (relevant) code snippets;
5. show the output of your program.

Once your report is finished, make sure your names and student numbers are on the title page, and send it to your instructor before the deadline.

Note that you are required to program in C# or C++, and must work in pairs of two. Assignments are graded with a G (good), V (sufficient) or O (insufficient).

Download the source game for the "The Flocking Dead" zombie simulation from the VLO, and open it in your IDE.

Question 1) Finish the Hunt function in the agent class, such that zombies will chase after other agents

Question 2) Finish the Evade code - inside the Flock( ) function - in such a way that agents will try to evade zombies

Question 3) Add a parameter to the separation code inside Flock( ), in order to scale dX and dY.

Question 4) Explain why separation is important for flocking

Question 5) Implement cohesion. Use a parameter to scale dX and dY.

Question 6) Explain why cohesion is important for flocking

Question 7) Implement alignment. Use a parameter to scale dX and dY.

Question 8) Explain why alignment is important for flocking

Question 9) Using trial and error testing, find out what parameter values for separation, cohesion and alignment work well to create the following scenario's

a) Agents crowd together in fear of the zombies
b) Agents spread out, making it harder for the zombies to catch them
c) A single agent is trying to outrun 14 very slow zombies

If necessary, change the speed of your zombies to make them faster or slower. Explain (for each scenario) your choice of parameters using screenshots, and describe how you achieved the desired effects.

Bonus Question 1: Implement a mouse avoider (i.e. the tip of your mouse pointer now also acts as a zombie)

Bonus Question 2: It's time for revenge! Change the program code such that the zombies will now try to evade the agents, while agents hunt for zombies