The "Gruffalo" – an inherited class in the Predator Prey Simulation

- Create a new class definition for the Gruffalo. This inherits from the animal class. Create two Private Constants: DefaultLifeSpan, which should be set to 10 and DefaultProbabilityDeathOtherCauses, which should be set to 0.05. These properties are not actually used in the code – Gruffalos do not die, but are necessary to run the 'New' sub.

- Create a sub 'New' in the Gruffalo class. This should run the method in the base class. If you are unsure about how to do either of these tasks, look at the Fox sub-class coding.

- Modify the Location class to include the Gruffalo – just copy the format of the statements already present for Foxes and Warrens.

- Create a sub in the Simulation class called CreateNewGruffalo. Again, you can simply copy and modify the code for CreateNewFox and CreateNewWarren.

- Modify the CreateLandscapeAndAnimals sub to add one Gruffalo to the simulation. For the default simulation, create an instance of a new Gruffalo at location 7, 8. For the custom simulation, call the CreateNewGruffalo sub.

- Modify the DrawLandscape sub so that it displays the Gruffalo in the grid.

- Now the difficult bit: Create a new Boolean function in the Simulation class called GruffaloEatsFox. A lot of the coding here will be similar to the FoxesEatRabbitsInWarren sub. For each Gruffalo in the landscape (yes, I know there is only one) use the DistanceBetween function to return the distance between the Gruffalo and the current fox, the location of which has been passed as parameters into the function. Use the following criteria to determine if the fox has been eaten (Return True):

Dist < 2	Eaten
Dist > 1 and Dist < 5	50% Chance of Eaten
Else	Not Eaten

- Finally modify the AdvanceTimePeriod sub to check if the Gruffalo has eaten any foxes in the time period (by calling the above function). If ShowDetail is set to True, then output a message to say that a fox has been eaten.

You should now be ready to test the revised simulation. If all works the Gruffalo should happily feed on foxes. For a small landscape it is therefore quite likely that all foxes will get eaten (or die for other reasons). In a larger landscape the Gruffalo will eat all nearby foxes, but then go hungry (fortunately, Gruffalos do not starve). Modify the simulation so that after each period the Gruffalo moves to another random part of the landscape. Note this will most easily be done by setting the current Gruffalo to nothing, and creating a new one.