Critters – README.pdf

E422C Project 4 submission by Shehryar Ahmed and Nicholas Duggar

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Code structure:

We only created new classes for the custom critters that were required – we did not find it necessary to create additional classes beyond that. However, we did create a few new methods and fields in the Critter class:

- Private long version and private static long global_version: we used these to keep track of whether critters moved, without having to iterate through the List of critters to change Boolean flags.
- Private static Boolean determining_encounters, doingWorldTimeStep: these are both for ensuring proper behavior of the walk and run functions throughout the worldTimeStep() function. The first is to determine if we need to check if a space is empty before moving, the second is expressly for the grading scripts, so they don't mess up the use of the versions and cause critters not to move.
- Private final int newX, newY: these methods are used to calculate x and y coordinates after a movement takes place, and are shared across several other methods, including walk and run
- Private final Critter look: This function will "look" at a space and determine whether it is empty (and therefore suitable for fleeing) by iterating through all of the critters and checking their coordinates.
- Private final Critter check_encounter: basically, a specialized use of look, added for readability.

We used the given ArrayLists to store the population and babies, to ensure maximum compatibility. We tried to keep the overall structure as simple as possible, knowing that the more complex it is the less likely it will work with the grading scripts.