

AP Computer Science

GridWorld Project 6

Your Critter!

In this assignment you will be able to design your own Critter that will be placed into the BoundedGrid along with other Critter. A simulation will be run with all of the creatures in the BoundedGrid to determine who will win the GridWorld “Battle Royale”! The requirements for “your” Critter is summarized below:

Requirements:

1. Your Critter must inherit from Critter or a subclass of Critter. Seven instances of each type of “YourCritter” will randomly be placed on the Grid.
2. Your Critter may only eat ONE Critter instance at a time.
3. In addition the above, you may “drop” or “place” up to two Bugs, Flowers, or Rocks (unaltered versions) on each step. You may “remove” up to two of the above items on each step as well.
4. Your creature must follow some “rule” in its algorithm to process other creatures (e.g. look in the current row, current column, behind 2 spaces, in front of it 3 spaces, etc). It may not be a “random” algorithm that uses a “shotgun” approach to process other creatures.
5. The creature(s) that inherits from Critter must NOT override the act method.
6. The creature(s) that inherits from Critter should **ONLY** override one or more of the “Big 5” methods called in the act() method: getActors(), processActors(), getMoveLocations(), selectMoveLocation(), and makeMove().
7. All of the overridden “Big 5” methods must satisfy that method’s stated postconditions.
8. Each creature that inherits from Critter adds at most only two new instance variables and at most two new private helper methods.
9. The new creature (java files and images) can be integrated into one standard working GridWorld program (i.e. no special modifications need to be made to a standard GridWorld program).
10. No sound files should be included with “YourCritter”.
11. Email your “YourCritter.java” and YourCritter.gif” files to Mr. Lew as attachments.