**EE422C Project 4 (Critters) README**

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GitHub Repository: https://github.com/synacktic/critter

**Critter Data Structure**

The data structure we used to hold the critters

**New Classes**

Critter1

Fields:

* private static final int GENE\_TOTAL: number of genes the critter has
* private int[] genes: array that holds the specific genes for the critter
* private int dir: direction the Critter is facing
* private int longevity: used to count how many timesteps the Critter1 has been alive. Used for deciding to reproduce.

Methods:

* public String toString(): represents the Critter on the world with a 1
* public Boolean fight(String): decide to fight based on the outcome for a randomly generated number from 0-33
* doTimeStep(): run, decide to breed if the longevity is a multiple of 5 and if it has enough health, decide on a new direction using 333 as a magic number

Critter2

Fields:

* private static final int GENE\_TOTAL: number of genes the critter has
* private int[] genes: array that holds the specific genes for the critter
* private int dir: direction the Critter is facing

Methods:

* public String toString(): represents the Critter on the world with a 2
* public Boolean fight(String): fights every critter except other Critter2s
* doTimeStep(): walk, decide to reproduce only if the randomly generated roll is a multiple of 19

Critter3

Fields:

* private static final int GENE\_TOTAL: number of genes the critter has
* private int[] genes: array that holds the specific genes for the critter
* private int dir: direction the Critter is facing

Methods:

* public String toString(): represents the Critter on the world with a 3
* public Boolean fight(String): fights every critter except other Critter2s
* doTimeStep(): walk, decide to reproduce only if the randomly generated roll is a multiple of 19

Critter4

Fields:

* private static final int GENE\_TOTAL: number of genes the critter has
* private int[] genes: array that holds the specific genes for the critter
* private int dir: direction the Critter is facing

Methods:

* public String toString(): represents the Critter on the world with a 4
* public Boolean fight(String): fights every critter except other Critter2s
* doTimeStep(): walk, decide to reproduce only if the randomly generated roll is a multiple of 19