The life engine

A project inspired by Max Robinson's life engine , for our software engineering course at BIU. This is a small-scale evolution simulator, written in java and heavily reduced complexity-wise for speed and ease of implementation.

For the original project's code go to:
https://github.com/MaxRobinsonTheGreat/LifeEngine

Rule set

The types of cells in our project:

ProducerCell, MouthCell, KillerCell, MoverCell , FoodCell

The ProducerCell: produces food cells in it's neighboring cells.

The MouthCell: consumes food cells to keep the organism it's a part of alive.

The KillerCell: damages other organisms. Enough damage done to an organism kills it and turns all its cells to food cells.

The MoverCell moves its organism in any direction. Typically changes direction in 25% chance each tick.

The FoodCell: is the most simple cell of them all, and cannot be part of an organism. It is consumed by an organism to stay alive.

Usage

The GUI is pretty straight-forward, but for any case:

You start by selecting the type of cell you would like to place- be it a food-cell, mouth-cell, killer-cell etcetera. You can then construct an organism whichever way you'd please, taking into account it's chance to survive- for example, for our small environment a good choice would probably be including a killer-cell, since the space is constrained and the created organisms will be relatively close the whole time. This means there will be less opportunity for food and more competition, which renders an advantage to organisms which can survive by killing and consuming their adversaries. When you're done building your organisms you can press start, and stop or reset whenever you please.