

EE 422C - Project5 Critters 2

This project provides a GUI for simulating the life of various critters in Java.

Getting Started

These instructions will get you a copy of the project up and running on your local machine for development and testing purposes.

Prerequisites

- [Java SE](#)
- [JavaFX](#)

Installing

Linux

1. Navigate to where you want the project
2. Clone repository: `git clone https://github.com/atchisonbrent/EE422C-Project5.git`
3. Move to source folder: `cd EE422C-Project5/src/`
4. Compile: `javac assignment5/*.java`
5. Run: `java assignment5.Main`

Class List

- Main.java
 - Sub-Classes:
 - AnimateTimer
 - `timesteps : int`
 - `AnimateTimer(int)`
 - `handle(long) : void`
 - Console
 - `output : TextArea`
 - `Console(TextArea)`
 - `write(int) : void`
 - TextField
 - `replaceText(int, int, String) : void`
 - `replaceSelection(String) : void`
 - ChangeListener
 - `changed(ObservableValue<? extends Number>, Number, Number) : void`
 - EventHandler
 - `handle(ActionEvent) : void`
 - Fields:
 - `myPackage : String`
 - `scene : GridPane`

- world : GridPane
- controls : VBox
- screenSize : Dimension
- critterList : ComboBox
- timeline : Timeline
- makeAmtLabel : Label
- makeMultLabel : Label
- makeAmtPane : GridPane
- makeAmtSlider : Slider
- makeAmtMult : Slider
- makeAmtVal : Label
- makeButton : Button
- stepLabel : Label
- stepMultLabel : Label
- stepPane : GridPane
- stepSlider : Slider
- stepMult : Slider
- stepVal : Label
- stepButton : Button
- aniLabel : Label
- aniPane : GridPane
- aniSlider : Slider
- aniVal : Label
- aniButton : Button
- anibool : boolean
- aTimer : AnimateTimer
- statsContainer : VBox
- statsButton : Button
- stats : TextArea
- ps : PrintStream
- seedLabel : Label
- seedPane : GridPane
- seedButton : Button
- seed : TextField
- exitBox : VBox
- exitButton : Button
- circle : Circle
- square : Polygon
- triangle : Polygon
- diamond : Polygon
- star : Polygon
- winWidth : double
- winHeight : double

- chkcombo : boolean
- Methods:
- main(String[]) : void
- start(Stage) : void
- runInit() : void
- sceneConfig() : void
- worldConfig() : void
- worldClear() : void
- comboConfig() : void
- makeAmtConfig() : void
- stepConfig() : void
- aniConfig() : void
- statsConfig() : void
- exitConfig() : void
- handlerInit() : void
- togglePane() : void
- screenListener() : void
- shapeConfig() : void
- seedConfig() : void
- listOfCritters() : void
- updateCanvas() : void
- stats() : void
- Input.java
 - Fields:
 - myPackage : String
 - Methods:
 - takeInput(Scanner) : void
 - printError(String[]) : void
 - printInvalid(String[]) : void
- Critter.java
 - Fields:
 - myPackage : String
 - CritterShape { CIRCLE, SQUARE, TRIANGLE, DIAMOND, STAR } : enum
 - population : List
 - babies : List
 - a : int[]
 - rand : Random
 - energy : int
 - x_coord : int
 - y_coord : int
 - hasMoved : boolean
 - fighting : boolean
 - Methods:

- viewColor() : Color
- viewOutlineColor() : Color
- viewFillColor() : Color
- viewShape() : CritterShape
- getX() : int
- getY() : int
- look(int, boolean) : String
- getRandomInt(int) : int
- setSeed(long) : void
- toString() : String
- getEnergy() : int
- walk(int) : void
- run(int) : void
- move(int, int) : void
- reproduce(Critter, int) : void
- doTimeStep() : void
- fight(String) : boolean
- makeCritter(String) : void
- getInstances(String) : List
- runStats(List) : void
- clearWorld() : void
- worldTimeStep() : void
- displayWorld() : void
- Critter1.java
 - Fields:
 - dir : int
 - Methods:
 - Critter1()
 - toString() : String
 - fight(String) : boolean
 - doTimeStep() : void
 - viewShape() : CritterShape
 - viewOutlineColor() : Color
- Critter2.java
 - Fields:
 - dir : int
 - Methods:
 - Critter2()
 - toString() : String
 - fight(String) : boolean
 - doTimeStep() : void
 - viewShape() : CritterShape
 - viewFillColor() : Color

- viewOutlineColor() : Color
- Craig.java
 - Fields:
 - GENE_TOTAL : int
 - genes : int[]
 - dir : int
 - Methods:
 - toString() : String
 - Craig()
 - fight(String) : boolean
 - doTimeStep() : void
 - runStats(List) : void
 - viewShape()
 - viewOutlineColor()
- Algae.java
 - Methods:
 - toString() : String
 - fight(String) : boolean
 - doTimeStep : void
 - viewShape()
 - viewColor()
- AlgaephobicCritter.java
 - Methods:
 - toString() : String
 - fight(String) : boolean
 - doTimeStep() : void
 - runStats2(List) : String
 - viewShape() : CritterShape
 - viewOutlineColor() : Color
- Params.java
 - Fields:
 - world_width : int
 - world_height : int
 - walk_energy_cost : int
 - run_energy_cost : int
 - rest_energy_cost : int
 - min_reproduce_energy : int
 - refresh_algae_count : int
 - photosynthesis_energy_amount : int
 - start_energy : int
 - look_energy_cost : int
- InvalidCritterException.java
 - Fields:

- offending_class : String
- Methods:
- InvalidCritterException(String)
- toString() : String

Critter Object

- Fields:
 - population : ArrayList()
 - babies : List
 - energy : int
 - x_coord : int
 - y_coord : int
 - hasMoved : boolean
 - fighting : boolean
- Methods:
 - viewColor()
 - viewOutlineColor()
 - viewFillColor()
 - viewShape()
 - getX()
 - getY()
 - getRandomInt(int) : int
 - setSeed(long) : void
 - toString() : String
 - getEnergy() : int
 - walk(int) : void
 - run(int) : void
 - move(int, int) : void
 - reproduce(Critter, int) : void
 - doTimeStep() : void
 - fight(String) : boolean
 - makeCritter(String) : void
 - getInstances(String) : List
 - runStats(List) : void

Authors

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