CMSC 157: Object-Oriented Programming Workshop

Assignment 4: Vector Creature

Due by Class (1:30pm) September 26, 2016

This assignment asks you to complete the first step in Shiffman's Ecosystem project, from page 62:

> **The Ecosystem Project**
>
> *As mentioned in the preface, one way to use this book is to build a single project over the course of reading it, incorporating elements from each chapter one step at a time. Well follow the development of an example project throughout this booka simulation of an ecosystem. Imagine a population of computational creatures swimming around a digital pond, interacting with each other according to various rules.*
>
> Develop a set of rules for simulating the real-world behavior of a creature, such as a nervous fly, swimming fish, hopping bunny, slithering snake, etc. Can you control the objects motion by only manipulating the acceleration? Try to give the creature a personality through its behavior (rather than through its visual design).

Learning Objectives

- Practice designing and implementing classes.
- Explore vector arithmetic.

Deliverable

Submitting your assignment:

1. Put a comment at the top of your programs with your name, date assignment description, and collaboration statement.
2. Bring a hardcopy of your program (i.e., the source code) to class.
3. Submit a zip file of your program via Moodle. The zip file should expand into a folder named `cmsc157-project4-lastname-firstname` with the Processing sketch inside of that folder.