Swing Ninja

The idea behind this program is to make a game similar to the popular game “Fruit Ninja” in Java Swing. The program will consist of a graphics window that is initially empty, but animations begin triggering after a start button is pressed. After the game has begun, Swing “fruit” will be created and animated to appear as though they are being tossed from the bottom of the screen with an apparent angle. While the fruit is in the air, if the mouse is dragged from a position outside of the fruit to the inside of the fruit, and then released again outside of the fruit then a score that is displayed under the start button will increment. The swing fruit will also be split in half and fall down out of the frame before disappearing. Whenever the mouse is being dragged, a line that will slowly fade will be drawn behind the cursor position. This program would be able to satisfy all requirements as follows:

Meaningful Object Oriented Design: each type of “fruit” will extend an abstract class. They will all have certain shared concrete methods such as a run method and a done method. Along with the methods concretely defined in the abstract class there will be some methods to be defined in the children such as a constructor, paint, toss, and slice. They will also have some shared instance variables such as int size, int DELAY_TIME, double xSpeed, double ySpeed, double GRAVITY, double upperLeftX, double upperLeftY, boolean done, JComponent container.

Event Driven: Using ActionListeners and MouseListeners we can have the user start, reset, and slice the fruit.

Threads: each fruit will be running on its own thread.

Appropriate data structures: All fruit objects in existence will be contained in an ArrayList so that they may be easily redrawn and kept track of.

At least one new feature: The fruit will be tossed from the bottom of the screen and will be triggered by an ActionEvent from a Java Swing Timer which we have not studied previously.

Milestones

★ = Crucially Important to Success

Create a frame with graphics panel, buttons, and labels: May 3rd
Implement cursor drag: May 3rd

★Implement hierarchy of fruit objects to be tossed later: May 7th
★Implement timer to toss fruit: May 10th
★Implement slicing fruit: May 14th
Implement working score, start and reset: May 17th
Debug and complete report: May 21st

Score Breakdown

	Points
Implemented Graphics Panel and Buttons/Labels	40
Cursor Animation	25
Fruit Hierarchy	75
Fruit Toss Timer	55
Fruit Slice	55
Total	250