

Unit 3 Test Project

Write a Java project (applet) that has two classes. The driver class (has the `init()` method) should allow the user to enter into an Input Dialog Box, the mail type ("P" for Priority or "F" for First Class), a blank space, and the weight in ounces of the piece of mail. You may assume the user will enter this data correctly.

Next, the `init()` method should construct a variable of type `Postage`. This class has two instance fields, a `String` representing the postage type and a `double` representing the postage weight. This class should have a parametric constructor, which initializes both of the instance fields. The `Postage` class should also have a `calculate()` method. This method should return the cost (a `double`) to mail the item. This cost is determined using the following guidelines.

Priority mail costs \$3.50 for 16 ounces or less, \$3.95 for over 16 ounces but not more than 32 ounces, and \$1.20 for each additional 16 ounces (or fraction) above above 32 ounces. First Class mail costs 34 cents for the first ounce and 21 cents for each additional ounce (or fraction), up to 13 ounces, after which Priority rates apply.

Lastly, the `init()` method should set the background color of the applet to yellow.

The `paint(Graphics g)` method, of the driver class, should draw right to the applet, in `darkGray`, the cost to mail the item.

This project should be executed 4 times with the following Test Data: 1) P 72 2) P 5 3) F 3.5 4) F 18

The output for the first set of data can be found on the back of this page. All input and output should be pasted to a Word document and turned in with your code.

HINT: You may want to consider using the following method of the `Math` class in your `calculate()` method of the `Postage` class:

`Math.ceil(x)` - Returns smallest integer $\geq x$ (as a `double`)

