

## Chapter 7 – In Class Assignment 2

### Problem

You have been given the *Product* class detailed below. You are to write a system that will allow the user to create a bunch of Products. Next, the program should print the shipping costs for all the size 1 boxes and then ship them. Next, the program should print the shipping status of each box (all sizes) and the shipping cost of only the items that have shipped. This process should repeat for the size 2 boxes, then the size 3 boxes. Finally, the program should display the total number of boxes shipped, total shipping cost, and average shipping cost, and number of fragile items.

Study the documentation below and then sketch out an algorithm/java to solve this problem.

### UML

Product
+ Product( l : double, w : double, h : double )
+ Product( l : double, w : double, h : double, isFragile : bool )
+ getBoxSize() : int
+ getShippingCost() : double
+ hasShipped() : bool
+ isFragile() : bool
+ ship() : void

### Javadoc

## Constructor Summary

**Product**(double l, double w, double h)  
Creates a product with specified dimensions.

**Product**(double l, double w, double h, boolean isFragile)  
Creates a product with specified dimensions and fragility

## Method Summary

int	<a href="#"><u>getBoxSize()</u></a> Returns the box size required to ship the product.
double	<a href="#"><u>getShippingRate()</u></a> Returns the cost (in dollars) to ship the package in a box of appropriate size.
boolean	<a href="#"><u>hasShipped()</u></a> Determines if the product has been shipped.
boolean	<a href="#"><u>isFragile()</u></a> Determines if the product is fragile.
void	<a href="#"><u>ship()</u></a> Ships the product in the box.