

**Assignment 2**  
**THE ETSY STORE**  
***Friday, March 7, 2014***

We are going to make a user interface form for an on-line store that allows customers to pick out merchandise, based on the shopping cart paradigm. The store is from an Etsy crafter who makes decorated sleeves for iPods and iPads.

The form will have two parts. The first part will ask the user to give a number of items to buy of the selected type and to add them to their shopping cart. The second part of the form will be a view cart where the user can select a shipping type and see their cost so far, displayed with shipping and sales tax.

In the first part of the form, the user can add merchandise to their shopping cart:

- Select between models: iPod mini, iPod regular, and iPad  
(the user should be able to only select one at a time)
- Type in a number to buy:

Each item type has a price and shipping weight in pounds:

iPod mini	\$12.00	1.0
iPod regular	\$15.00	1.2
iPad	\$25.00	2.0

Additional Options can be selected that add to the cost and to the weight of each item:

Velcro Closure	add \$5	add 0.2 pounds
Carry Strap	add \$15	add 1.0 pounds

The user may also type in a discount coupon code, if they have one. The allowable coupon code is "iPad5OFF". If the user types in this string, then they will get \$5 off the (total) price of an iPad sleeve, if that is what they are buying.

After specifying all these options, the user can give the number of items that they want to order of this specification and have a button where they can add this to their shopping cart. Note that the user can then go on to order more items, adding to the information in the shopping cart. For example, the user could first order 1 iPad sleeve with a Velcro closure and carry strap and then 2 iPod mini sleeves with no additional options.

The second part of the form is the View Cart with shipping for all the items that have been added to the shopping cart in the first part of the form.

- Then the user can choose between two types of shipping, Regular and Expedited.
- There is a button where the user can view their order. This should include:
  - The number of items ordered and the total weight.
  - The subtotal, which is the total cost of items in the cart.
  - The amount of discount, if any.
  - The cost of the shipping.
  - Estimated amount of sales tax (at 8.25%)
  - The total amount of the order.
- Finally, there should be another button where the user can clear the shopping cart and start over.

### Computation for the form:

This application will require global variables to keep information in the shopping cart. In these variables, you should keep all the information that is needed in more than one button. In particular, note that you must save the all the information that must be displayed on the checkout form, including the number of items, the weight of the items, the discount and the price so far.

There are also two programming requirements for this assignment. The first is that you are required to write and use a method of your own design. For example, you could have a method that computes the cost of items with options and adds the item cost, number of items, weight of the items and the discount to the shopping cart variables.

The second requirement is that the prices for regular shipping are stored in an array according to the following definition.

```
double [ ] shipping = {0.0, 1.20, 1.50, 1.70, 1.80, 2.00, 2.20, 2.30, 2.50, 2.70, 2.80};
```

The array gives the cost of shipping for each pound of merchandise ranging from 0 to 10. The weight of an order must be converted to the next higher integer: for a double wt, the next highest integer is (int) Math.ceil(wt). Then the integer weight can be used as an index number into the array to get the shipping. For example, if the total weight of the order is 5.2 pounds, the next highest integer is 6 and the cost of shipping is shipping[6]. If the weight of the order is over 10 pounds, then the regular shipping is \$3.00. If the user selects expedited shipping, then \$4.00 is added to the shipping.

Other requirements:

In the checkout, all monetary amounts should be formatted as currency.

To finish this assignment

- Design the layout the form and make it. Give meaningful names to the components.
- Write the programs
  - Write comments on the top of each program, including **your name** and what the program is for
  - Write (simple) comments before each button actionPerformed method with the description of what it does
  - Write the code, including the method, design variables as appropriate and add any additional comments that will make the code clear to read

This assignment is worth 120 points. For this assignment, you will be graded on:

- Whether the programs runs and computes correctly
- Error checking for user input from textboxes
- Use of radiobuttons and checkboxes
- Format, clarity and appearance of user interface
- Currency Formatting
- Design of variables and variable names
- Design and use of methods
- Documentation
- Clarity and overall design of programs

**Bonus Problem (worth 10 extra points):**

The bonus problem is that when the user clicks the checkout button on the second part of the form, they should also receive a list of all the items with options that they added to the cart. The form of this list is that there will be multiple lines of text in either a label or textarea, where each line contains the information from one item.

One way to implement this is to add String variable to the shopping cart variables at the class level. Every time that the user adds items to the shopping cart, you would concatenate the review information and add it to the String. You can limit the size of the array to 10 items, but alert the user if they try to submit too many. Then in the View Cart, you would display this text in a multi-line label or textarea.

**How to Submit your Homework:**

In your project directory, create a **zip file** of the sub-directory that has your homework project in it and submit it to the assignment 2 dropbox under the Assignments button in Blackboard.