

IST 256  
Exercises – Monday, March 1, 2010

### 1. Understanding Methods

Assume that there is a form for an application that has one TextField (called jTextField1) where the user types in a sales total and one label (called jLabel1) where the number of items is displayed. There are also the following definitions of methods, one of which is for a button to compute the number of items sold.

```
/* Method to compute the number of items from the total
 * (of a sales) given that the price per unit is $10
 * Parameter:  total (total sales)
 * Result:    number of items
 */
private int computeItems(int total) {
    // Price per item is fixed at $10
    int itemprice = 10;
    int items;

    items = (total / itemprice);
    return items;
}

/* User gives the total sales bought in a textfield,
 * Compute the number of items and display
 */
private void computeButtonActionPerformed
    (java.awt.event.ActionEvent evt) {
    int amount, number;

    amount = Integer.parseInt(jTextField1.getText());
    number = computeItems(amount);
    jLabel1.setText(String.valueOf(number));
}
}
```

Suppose that the user types the number “100” in the textfield. What will be displayed in the label? Write your answer here.

Suppose that the user types the number “30” in the textfield. What will be displayed in the label? Write your answer here.

Suppose that the user types the number “-50” in the textfield. What will be displayed in the label? Write your answer here.

## 2. Understanding How to Write a Method Call

Suppose that we have a form that lets the user figure out how much dog food to feed their dog. The form asks the user to type in the weight of their dog in pounds and how active their dog is. The button actionPerformed method gets the weight and stores it into a **double variable called “pounds”** and stores the activity level into a **String variable called “activity”**. The form has a method called dogfood that will return the amount of dog food the dog should get per day.:

```
/* This method takes the weight and activity of a dog,
 *      and returns the amount of dog food per day
 * Parameters: weight of the dog as a double
 *      activelevel of the dog as a String
 * Result:   amount of dog food as a double
 */
private double dogfood ( double wt, String activelevel) {
    double amount;
    if (activelevel.equals("slow")) {
        amount = wt * 0.1;
    }
    else {
        if (activelevel.equals("active")) {
            amount = wt * 0.2;
        }
        else {
            if (activelevel.equals("hyper")) {
                amount = wt * 0.4;
            }
            else {
                amount = wt * 0.2;
            }
        }
    }
    return amount;
} // end of dogfood method
```

a. Is the following a valid method call to dogfood, and if not, why not?  
dogfood (pounds, 10)

b. Is the following a valid method call to dogfood, and if not, why not?  
dogfood (pounds, “active”, 10)

b. Suppose that the value of the variable “pounds” is 10.0 and the value of the variable “activity” is “hyper”. After this procedure call, what value will be in the variable result?  
double result;  
result = dogfood ( pounds, activity)

### 3. Understanding how to write a method

Write a method according to the following

1. There is only one parameter and it is an integer
2. The method does the following:
  - If the value of the integer is between 0 to 99, then return the message "o.k."
  - If the value of the integer is smaller than 0 or larger than 99, then return the message "Mistake!"

First write the method header line for this method. You will need to decide on a method name and what is the type of the result.

Next write the method body to do the computation described. Do you need any local variables? Don't forget to include a return statement.