Lab Exercise (Chapter 4 & 5 – Control Structures)

Exercise 1.

Description of the Problem

A website sells three products whose retail prices are as follows: Product 1, $2.98; product 2, $4.50; and product 3, $9.98. Write an application that reads a series of pairs of numbers as follows:

a) Product number

b) Quantity sold

Your application should use a switch statement to determine the retail price for each product. It should calculate and display the total retail value of all products sold. Use a sentinel-controlled loop to determine when the application should stop looping and display the final results.

Sample Output:

```
Enter product number (1-3) (0 to stop): 1
Enter quantity sold: 100
Enter product number (1-3) (0 to stop): 2
Enter quantity sold: 200
Enter product number (1-3) (0 to stop): 1
Enter quantity sold: 50
Enter product number (1-3) (0 to stop): 3
Enter quantity sold: 10
Enter product number (1-3) (0 to stop): 1
Enter quantity sold: 100
Enter product number (1-3) (0 to stop): 0

Product 1: $745.00
Product 2: $900.00
Product 3: $99.80
```

(You're advisable to attempt the question by yourself without referring to the template)

Template:

```
// Program calculates sales, based on an input of product
// number and quantity sold
import java.util.Scanner;

public class Sales
{
   public static void main( String args[] )
   {
      Scanner input = new Scanner( System.in );

      double product1 = 0; // amount sold of first product
      double product2 = 0; // amount sold of second product
      double product3 = 0; // amount sold of third product

      /* Ask the user to enter product number */

      /* Create while statement that loops until sentinel is entered */

         /* Determine whether user's product number is in 1-5 */

            /* If so, ask user to input the quantity sold */

            /* Write a switch statement here that will compute the total
               for that product */

         /* If product number is not in 1-5, test if product number is not 0 */
            /* Display error message for invalid product number */
        /* Ask the user to enter another product number */

     /* end while loop */

     // print summary
     System.out.println();
     System.out.printf( "Product 1: $%.2f\n", product1 );
     /* write code here for the rest of the summary message it should contain
        the totals for the rest of the products, each on it's own line */
  } // end method calculateSales
} // end class Sales
```