Lab 8

(Due date: Friday, 2/28/2009 in the Lab hours)

Your name:	Score:

1. For the following Java project (**Fig5.1**):
   - Test the code and record the outputs.
   - Rewrite the Control statement with **for**… statement *without* changing the outputs.

```
// Fig. 5.1: WhileCounter.java
// Counter-controlled repetition with the while repetition statement.

public class WhileCounter
{
   public static void main( String args[] )
   {
      int counter = 1; // declare and initialize control variable

      while ( counter <= 10 ) // loop-continuation condition
      {
         System.out.printf( "%d  ", counter );
         ++counter; // increment control variable by 1
      } // end while

      System.out.println(); // output a newline
   } // end main
} // end class WhileCounter
```

2.For the following Java project (**Fig5.2**):
   - Test the code and record the outputs.
   - Rewrite the Control statement with **while**… statement *without* changing the outputs.

```
// Fig. 5.2: ForCounter.java
// Counter-controlled repetition with the for repetition statement.

public class ForCounter
{
   public static void main( String args[] )
   {
      // for statement header includes initialization,
      // loop-continuation condition and increment
      for ( int counter = 1; counter <= 10; counter++ )
         System.out.printf( "%d  ", counter );

      System.out.println(); // output a newline
   } // end main
} // end class ForCounter
```

3.For the following Java project (**Fig5.5**):

- Test the code and record the outputs.
- Rewrite the Control statement with **do ….while** statement *without* changing the outputs.

```
// Fig. 5.5: Sum.java
// Summing integers with the for statement.

public class Sum
{
   public static void main( String args[] )
   {
      int total = 0; // initialize total

      // total even integers from 2 through 20
      for ( int number = 2; number <= 20; number += 2 )
         total += number;

      System.out.printf( "Sum is %d\n", total ); // display results
   } // end main
} // end class Sum
```

4.For the following Java project (**Fig5.6**):

- Test the code and record the outputs.
- Rewrite the Control statement with **while**… statement *without* changing the outputs.

```
// Fig. 5.6: Interest.java
// Compound-interest calculations with for.

public class Interest
{
   public static void main( String args[] )
   {
      double amount; // amount on deposit at end of each year
      double principal = 1000.0; // initial amount before interest
      double rate = 0.05; // interest rate

      // display headers
      System.out.printf( "%s%20s\n", "Year", "Amount on deposit" );

      // calculate amount on deposit for each of ten years
      for ( int year = 1; year <= 10; year++ )
      {
         // calculate new amount for specified year
         amount = principal * Math.pow( 1.0 + rate, year );

         // display the year and the amount
         System.out.printf( "%4d%,20.2f\n", year, amount );
      } // end for
   } // end main
} // end class Interest
```

5.For the following Java project (**Fig5.7**):

- Test the code and record the outputs.
- Rewrite the Control statement with **for ….** statement *without* changing the outputs.

```
// Fig. 5.7: DoWhileTest.java
// do...while repetition statement.

public class DoWhileTest
{
   public static void main( String args[] )
   {
      int counter = 1; // initialize counter

      do
      {
         System.out.printf( "%d  ", counter );
         ++counter;
      } while ( counter <= 10 ); // end do...while

      System.out.println(); // outputs a newline
   } // end main
} // end class DoWhileTest
```

6.For the Java project **Fig5.9-10 (switch…)** (get the code from R: drive);

- Test the code and record the outputs.
- Rewrite the Control statement **(switch…)** with **if…else ….** Statement(s) *without* changing the outputs (**just make some changes in the method incrementLetterGradeCounter() in the class GradeBook**).

7.Practice with Java GUI project (**Fig5.26-27**) and then complete GUI and Graphics Case Study Exercise 5.1 on p.223.

- Print out the code and submit it to the instructor.