

CSC 241

Lab 6

Option 1:

Implement and test the **multiply** method of the **LargeInt** class on the following two numbers:

123456789 and **123456789**.

The **multiply** method can use the **LargeInt add** method.

For example:

```
    345
  x 123
  ----
 1035
 6900
+34500
-----
42435
```

Take $345 \times 3 = \text{add } 345 \text{ to itself } 3 \text{ times} = 1035$,

$345 \times 2 = \text{add } 345 \text{ to itself } 2 \text{ times} = 690$ and append "0" to it because the 2 is in the tens place = 6900,

$345 \times 1 = \text{add } 345 \text{ to itself } 1 \text{ time} = 345$ and append "00" to it because the 1 is in the hundreds place = 34500; all using the add method.

Now add the 1035, 6900, and 34500 using the add method again.

This approach would work.

Also, make sure your commas are in the right place.

Here is a sample driver:

```
public class LargeIntDriver {
    public static void main(String[] args){
        LargeInt x = new LargeInt("123456789");
        LargeInt y = new LargeInt("123456789");
        LargeInt z = LargeInt.add(x, y);
        LargeInt product = LargeInt.multiply(x, y);
    }
}
```

```
        System.out.println(product);
    }

}
```

The correct output should be: **+15,241,578,750,190,521**

Be sure to test your **multiply** method on positive and negative combinations:

(+) x (+), (-) x (-), (+) x (-), and (-) x (+).

Option 2:

Make a card game in a **JFrame** using the **Card** and **CardDeck** class. The game can be one player or two player; it should incorporate a final state such that a player wins. Write the driver program in a file called **MyCardGameGUI**.