Lesson Plan for Lab10
CS 1401, Thursdays 7:30 a.m.

I. Review for Test No. 3 (total 50 minutes)

**Problems will cover most of the material for the test

a) 3 minutes-- I will assign groups of two persons (group 1, group 2, etc)

b) 25 minutes-- Then, I will give to each group a sheet with three problems

   similar to the last semester exam. (I will have two different versions of the
   problem sheet, so in total will be 6 problems)

c) 3 minutes-- After each group finishes their problems, I will assign new

   groups. New groups will be the following:

   Group 1 (version A) + Group 2 (version B)

   Group 3 (version A) + Group 4 (version B)

   And so on…

d) 19 minutes-- Now, the new groups will have two different versions of the

   problem sheets. So, each subgroup on the group will have to explain to the

   other group how they solve the problems.
1. (User-Defined Methods) Show the output of the following program

```java
public class MysteryClass {
    public static void main(String[] args) {
        int n;
        for (n = 1; n < 5; n++)
            System.out.println(mystery(n));
    } // end main
    public static int mystery(int k) {
        int x, y;
        y = k;
        for (x = 1; x <= (k - 1); x++)
            y = y * (k - x);
        return y;
    } // end mystery
} // end MysteryClass
```

2. (Classes and ADTs) Find the syntax errors in the definitions of the following class

```java
public class AA {
    private int x;
    private int y;
    public void print() {
        System.out.println(x + " " + y);
    }
    public int sum() {
        return x + y;
    }
    public AA() {
        x = 0;
        y = 0;
    }
    public AA(int a, int b) {
        x = a;
        y = b;
    }
} // end class AA
```

3. (Arrays) Write the Java statements that do the following

   a) Initialize each component of the array `alpha` to 5
   b) Print an array of 5 elements
1. (User-Defined Methods) Show the output of the following program

```java
public class StrangeClass{
    public static void main(String[] args){
        int num = 0;
        while (num <= 29){
            if (strange(num))
                System.out.println("True");
            else
                System.out.println("False");
            num = num + 4;
        } // end while
    } // end main

    public static boolean strange(int n){
        if (n % 2 == 0 && n % 3 == 0){
            return true;
        } else
            return true;
    } // end strange
} // end StrangeClass
```

2. (Classes and ADTs) Find the syntax errors in the definitions of the following class

```java
public class BB{
    private int one;
    private int two;
    public boolean equal(){
        return (one == two);
    }
    public void print(){
        System.out.println (one + " " + two);
    }
    public BB(int a, int b){
        one = a;
        two = b;
    }
} // end class BB
```

3. (Arrays) Write the Java statements that do the following

   a) Declare an array `alpha` of 26 integer elements
   b) Sum all elements of an array of 5