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15-121 Fall 2019 Quiz 2

Up to 15 minutes. No calculators, no notes, no books, no computers. Show your work!

1. Short Answer

(a) (2 points) Write two lines of code to generate a random number between 0 and 100 and store it in an integer named `myRand`.

(b) (2 points) What is the largest, unsigned value that can be stored in a 3-byte integer? You do not need to reduce your answer.

2. (4 points) **Code Tracing:** Indicate what the following program prints. Place your answer (and nothing else) in the box under the code. Note that program has *three* print statements.

```
public class IncrementorExercise {  
    public static void main(String[] args) {  
        int e = 5;  
        int f = 10;  
  
        System.out.println(--e + f++ + e++ + f-- + ++e - --f);  
        System.out.println(e);  
        System.out.println(f);  
    }  
}
```

3. (12 points) **Free Response:** Write the public method `printDivisibles` which, given a integer `maxValue` and another integer `divisor` prints out all positive numbers which are less than or equal to `maxValue` that are evenly divisible by `divisor`. It should not print out `divisor` itself. If the method printed out any values then it should return `true`. If it didn't print out any values, then it should return `false`.

Hint: Recall that the modulus operator (`%`) is used to get the remainder of a division operation.

Consider the following three examples:

	Example 1	Example 2	Example 3
Method Call	<code>isDivisible(10, 2)</code>	<code>isDivisible(10, 3)</code>	<code>isDivisible(10, 7)</code>
Output	4 6 8 10	6 9	
Return Value	<code>true</code>	<code>true</code>	<code>false</code>

```
public boolean printDivisibles(int maxValue, int divisor) {
```