COMP 110/L
Fall 2022

Lecture 9 Handout

1.) Assume you have the following code, where `...` represents an `int` expression:

```
int x = ...;
int y = ...;
```

1.a.) Write an `int` expression that returns the number of times `y` evenly divides into `x`. For example, if `x` were `11` and `y` were `4`, this expression should evaluate to `2`.

1.b.) Write an `int` expression that returns the remainder of the division `x / y`. For example, if `x` were `11` and `y` were `4`, this expression should evaluate to `3`.

2.) Assume that `x` and `y` from question 1 are still in scope.

2.a.) Write a `boolean` expression that evaluates to `true` if `x` is less than `y`.

2.b.) Write a `boolean` expression that evaluates to `true` if `x` is greater than `y`.

2.c.) Write a `boolean` expression that evaluates to `true` if `x` is equal to `y`.

2.d.) Write a `boolean` expression that evaluates to `true` if `x` is NOT equal to `y`.

2.e.) Declare a `boolean` variable `b`, and initialize `b` to `true` if `x` is less than OR equal to `y`. Otherwise, `b` should be initialized to `false`.

3.) Assume that `x` and `y` from question 1 are still in scope. Write an `if` statement below which will print `"gte"` if `x` is greater than OR equal to `y`.

4.) Assume that `x` and `y` from question 1 are still in scope. Write an `if`/`else` statement below that will print:

- `"lt"` if `x` is less than `y`
- `"gte"` if `x` is NOT less than `y`. As a hint, you should not need to explicitly check if `x` is greater than or equal to `y`.

5.) Declare a `static` method named `greaterThan`, which takes two `int` values and returns `true` if the first is greater than the second. Otherwise, `greaterThan` should return `false`. Two example calls are below:

```
System.out.println(greaterThan(3, 4)); // prints "false"
System.out.println(greaterThan(7, 2)); // prints "true"
```