RETURNING WITHIN A CONDITIONAL

@ Dr. Jessica Young Schmidt and NCSU Computer Science Faculty

RETURNING WITHIN A CONDITIONAL

- When a return statement is reached, the specified value is returned, and we exit the method
  - Any remaining portion of the method is NOT executed
  - If return in the middle of a loop, the remainder of the loop is NOT executed
- Must return on all paths out of a method

```java
import java.util.Scanner;

/**
 * Reads two integers from the user than outputs the max of the two values
 *
 * @author Jessica Young Schmidt
 */
public class FindMax {
    /**
     * Starts the program.
     *
     * @param args command line arguments
     */
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        System.out.print("Enter two integers: ");
        int value1 = in.nextInt();
        int value2 = in.nextInt();

        System.out.println("Max (from Math.max method): "
            + Math.max(value1, value2));
        System.out.println("Max (from maxA method): " + maxA(value1, value2));
        System.out.println("Max (from maxB method): " + maxB(value1, value2));
    }

    /**
     * Returns the max of x and y
     *
     * @param x integer to compare
     * @param y integer to compare
     * @return the max of x and y
     */
    public static int maxA(int x, int y) {
        if (x > y) {
            return x;
        } else {
            return y;
        }
    }

    /**
     * Returns the max of x and y
     *
     * @param x integer to compare
     * @param y integer to compare
     * @return the max of x and y
     */
    public static int maxB(int x, int y) {
        int max = y;
        if (x > y) {
            max = x;
        }
        return max;
    }
}
```

```
$ javac -d bin -cp bin src/FindMax.java

$ java -cp bin FindMax
Enter two integers: 20 26
Max (from Math.max method): 26
Max (from maxA method): 26
Max (from maxB method): 26

$ java -cp bin FindMax
Enter two integers: 20 20
Max (from Math.max method): 20
Max (from maxA method): 20
Max (from maxB method): 20

$ java -cp bin FindMax
Enter two integers: -2 -29
Max (from Math.max method): -2
Max (from maxA method): -2
Max (from maxB method): -2

$ java -cp bin FindMax
Enter two integers: 1234
56789
Max (from Math.max method): 56789
Max (from maxA method): 56789
Max (from maxB method): 56789
```