Unit 2 Practice Test

1. Consider the following three Java code fragments:

```
I.    17.76
II.   "It's July!"
III.  hello
```

Which of them are examples of Java *literals*? (If a word could be a variable, you may assume that it has been properly declared and initialized.)

A. only I
B. only II
C. only III
D. I and II, but not III
E. I and III, but not II
F. II and III, but not I

2. Consider the following Java code fragment:

```
int m = 9;
int n = 4;
m += n;
n = m - n;
m = m - n;
System.out.println(m + " " + n);
```

When it is executed, what output will be produced?

A. `4 9`
B. `5 5`
C. `13 5`
D. `9 4`
E. `13 9`

3. Which of the following for-loop headers will cause the body of the loop to be repeated exactly 7 times?

A. `for (int i = 0; i <= 7; i++)`
B. `for (int i = 1; i < 7; i++)`
C. `for (int i = 0; i < 7; i++)`
D. `for (int i = 1; i <= 8; i++)`
E. none of these

4. Consider the following Java code fragment:

```
int a = 7;
int b = a / 2;
double c = a / 2;
a = a % 4;
System.out.println(a + " " + b + " " + c);
```

When it is executed, what output will be produced?

A. 3 3 3.5
B. 3 3 3.0
C. 3 1 1.5
D. 3 1 1.0
E. 1 3 3.5
F. 1 0 0.0

5. What is the output of the following Java program?

```
public class Problem5 {
    public static void method1() {
        System.out.print("X ");
    }
    public static void method2() {
        System.out.print("Y ");
    }
    public static void main(String[] args) {
        for (int i = 0; i < 4; i++) {
            if (i <= 2) {
                method1();
            } else {
                method2();
            }
        }
    }
}
```

A. Y Y X X X
B. X Y X X Y Y
C. X Y X X X Y
D. X X Y Y
E. X X X Y
F. X X X Y Y

6. What is the output of the following?

```
int i, j;
for (i = 0; i <= 4; i += 2) {
    for (j = 1; j < i; j++) {
        System.out.println(i + " " + j);
    }
    System.out.println(i + j);
}
```

We encourage you to use a table to keep track of the values of the variables, although doing so is *not* required.

Put the output below.

7. Write a code fragment (no class or method is needed) that uses nested for loops to produce the following pattern. Each print/println statement should print at most one character. You may find it helpful to use a table to determine the necessary formulas, as we did in class. You do *not* need to use a class constant.

```
\\\:::::::::
\\\\::::::
\\\\\:::
\\\\\\
```