

# CSE 143X Section Handout #1 Problems

## System.out.println

(more practice: Ch. 1 self-checks 7-17; exercises 1-6)

1. **Exercise 1.7, p55 ("Mantra").** Write a complete Java program that produces the exercise's output. For now, put all of your code into the program's main method.

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2. **Self-Check 1.12, p48 ("DoubleSlash").** Write the output of the program shown.

```
public class Letter {
    public static void main(String[] args) {
        System.out.println("Dear \"DoubleSlash\" magazine,");
        System.out.println();
        System.out.println("\tYour publication confuses me. Is it ");
        System.out.println("a \\\ slash or a /// slash?");
        System.out.println("\nSincerely,");
        System.out.println("Susan \"Suzy\" Smith");
    }
}
```

3. **Exercise 1.4, p55 ("Difference").** Write a complete program that produces the output shown.

What is the difference between  
a ' and a "? Or between a " and a \"?

One is what we see when we're typing our program.  
The other is what appears on the "console."

## Static Methods

(more practice: Ch. 1 self-checks 21-28; exercises 7-17)

4. **Self-Check 1.26, p52 ("Confusing").** Write the output of the program shown.

```
public class Confusing {
    public static void method1() {
        System.out.println("I am method 1.");
    }

    public static void method2() {
        method1();
        System.out.println("I am method 2.");
    }

    public static void method3() {
        method2();
        System.out.println("I am method 3.");
        method1();
    }

    public static void main(String[] args) {
        method1();
        method3();
        method2();
        method3();
    }
}
```

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5. **Exercise 1.7, p55 ("Mantra"), revisited.** Improve the Mantra program from Problem #1. Remove its redundancy by adding a static method.
6. **Exercise 1.13, p57 ("StarFigures").** Write a complete program that generates the output shown. Use static methods to show structure and to eliminate redundancy in your solution.

```

*****
*****
 * *
 *
 * *

*****
*****
 * *
 *
 * *
*****
*****

 *
 *
 *
*****
*****
 * *
 *
 * *

```

7. **Self-Check 2.3-5, p124-125.** Compute the value of each expression below. Be sure to list a literal of appropriate type (e.g., 7.0 rather than 7 for a double, string literals in quotes).

	Expression		Expression
a	$4 * 3/8 + 2.5 * 2$	q	$(2.5 + 3.5)/2$
b	$26 \% 10 \% 4 * 3$	r	$9/4 * 2.0 - 5/4$
c	$(5 * 7.0/2 - 2.5)/5 * 2$	s	$3 * 4 + 2 * 3$
d	$12/7 * 4.4 * 2/4$	t	$177 \% 100 \% 10/2$
e	$"hello 34 " + 2 * 4$	u	$9/2.0 + 7/3 - 3.0/2$
f	$"2 + 2 " + 3 + 4$	v	$813 \% 100/3 + 2.4$
g	$3 + 4 + " 2 + 2"$	w	$27/2/2.0 * (4.3 + 1.7) - 8/3$
h	$41 \% 7 * 3/5 + 5/2 * 2.5$	x	$89 \% (5 + 5) \% 5$
i	$22 + 4 * 2$	y	$4.0/2 * 9/2$
j	$10.0/2/4$	z	$392/10 \% 10/2$
k	$23 \% 8 \% 3$	aa	$53/5/(0.6 + 1.4)/2 + 13/2$
l	$17 \% 10/4$	bb	$8 * 2 - 7/4$
m	$8/5 + 13/2/3.0$	cc	$37 \% 20 \% 3 * 4$
n	$12 - 2 - 3$	dd	$2.5 * 2 + 8/5.0 + 10/3$
o	$6/2 + 7/3$	ee	$2 * 3/4 * 2/4.0 + 4.5 - 1$
p	$6 * 7\%4$	ff	$89 \% 10/4 * 2.0/5 + (1.5 + 1.0/2) * 2$

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## Nested for Loops

8. **Self-Check 2.30, p130.** What output is produced by the following program?

```
public class Loops {
    public static void main(String[] args) {
        for (int i = 1; i <= 10; i++) {
            for (int j = 1; j <= 10 - i; j++) {
                System.out.print(" ");
            }
            for (int j = 1; j <= 2 * i - 1; j++) {
                System.out.print("*");
            }
            System.out.println();
        }
    }
}
```

9. **Exercise 2.20, p136.** Write a static method named `drawFigure` that produces the following output using `for` loops for structure.

```
////////////////////////////////\////////////////////////////////\
////////////////////////////////\*****\////////////////////////////////\
////////////////////////////////\*****\////////////////////////////////\
////////////////////////////////\*****\////////////////////////////////\
////////////////////////////////\*****\////////////////////////////////\
*****
```