

Midterm 1 Practice Questions  
CMPS 12A – Fall 2017

1.) Fill in the missing parts of the program below so that it prints what is shown in the box if the user enters 4. It should work similarly for other input values. Main is missing just 3 lines. The other method can be solved with fewer lines than the number provided.

```
import java.util.Scanner;
public class Problem1 {
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        int length = in.nextInt();
        for (int i = 1; i <= length; i++) {
            _____
            _____
            _____
        }
    }
    public static void printRow(int lineLength, char c) {
        _____
        _____
        _____
        _____
    }
}
```

```
*
**
***
****
```

2.) Write a syntactically correct program that prompts the user for two integers, passes those two integers to a method as arguments. The method is called `sum`, has two integer parameters, and returns the sum of the two parameters as an integer. Remember to include necessary import statements, a class declaration (which can be any valid name), and `main()` method.

3.) The following program contains 3 syntax errors. (a) Circle each error and indicate how to fix the error, (b) Determine what the program would print out if the errors were fixed, (c) convert the for loop to a while loop.

```
public class Question3{
    public static void main(String[] args){
        int x
        int sum = 0;
        for(x = 0; x < 5; x++){
            sum = sum + x;
        }
        System.out.println(sum);
    }
}
```

4.) Determine the output of the following program:

```
public class Question4{
    public static void main(String[] args){
        System.out.println(func1(5));
    }
    public static int func1(int x){
        System.out.println("func1: " + x);
        int y = func2(2 * x);
        return y;
    }
    public static int func2(int a){
        System.out.println("func2: " + a);
        return func3((a + 1));
    }
    public static int func3(int x){
        System.out.println("func3: " + x);
        return (x + 4);
    }
}
```

Output:

5.) Determine the output of the following program. Write the output in the box below.

```
public class Question5{
    public static void main(String[] args) {
        func1(func2(func3(3)));
    }
    public static void func1(int x){
        System.out.println("func1 " + x);
    }
    public static int func2(int x){
        System.out.println("func2 " + x);
        return 3*x;
    }
    public static int func3(int x){
        System.out.println("func3 " + x);
        int y = func2(x);
        return y;
    }
}
```

Output:

6.) What is the value of count after this program is finished running?

```
public class Question6{
    public static void main(String[] args){
        int count = 0;
        for(int i = 0; i < 5; i++){
            for(int j = 0; j < i; j++){
                count++;
            }
        }
    }
}
```

7.) What is printed by the following code snippet?

```
int x = 10, y = 10, z = 30;
if(x == y)
    System.out.print("A");
if(x < z)
    System.out.print("B");
else
    System.out.print("C");
```

8.) Determine what the following program would output assuming the user input 2.5 4.0 6.0 for the first three doubles of user input, and 5 4 3 for the second three integers of input.

```
import java.util.Scanner;
public class Question8{
    public static void main(String[] args){
        Scanner keyboard = new Scanner(System.in);

        // three doubles from user
        double x = keyboard.nextDouble();
        double y = keyboard.nextDouble();
        double z = keyboard.nextDouble();

        mystery1(x, y, z);

        // three integers from user
        int a = keyboard.nextInt();
        int b = keyboard.nextInt();
        int c = keyboard.nextInt();

        mystery2(a, b, c);
    }
    public static void mystery1(double x, double y, double z){
        System.out.println("mystery1: " + (2*x) + ", " + (y+2) + ", " + z);
    }
    public static void mystery2(int a, int b, int c){
        System.out.println("mystery1: " + (2+a) + ", " + (2*b) + ", " + (2*c));
    }
}
```

Output:



9.) Complete the method readTillZero such that the user is repeatedly prompted for integers, keeping a running sum of all integers, till zero is entered. The method should print out the sum at the end of the method.

```
import java.util.Scanner;
public class Question9{
    public static void main(String[] args){
        readTillZero();
    }
    public static void readTillZero(){
        // Your code goes below

    }
}
```

10.) Complete the table below – each blank is the result of the expression evaluating to some value.

Expression	Value
int a = 11, b = 2, c = 3; (a / b) % c;	
boolean a = true, b = false; !(a && b)    (!a    b)	
double a = 5.0; int b = 2, c = 10; (a / b) * c	
int a = 3, b = 2; (a > b) && !(a == b)	