Java...

Please, what does \texttt{arg1, arg2} mean...
Review from first exam
What does this print?

String s = “marco polo”;
System.out.println(s.substring(0,3));
mar
Print the predefined double variable d with 9 decimal place precision (with a new line).
System.out.printf("%.9f\n", d);
Create a Scanner that reads in a word from the keyboard. Store the word in a String variable called *wordsBro*.
Scanner s = new Scanner (System.in);
String wordsBro = s.next();
Why do you need to have an extra `.nextLine()` when you are trying to read a full line after calling `.next()`, `.nextInt()`, or `.nextDouble()`?
token processing to line processing.

.nextLine looks for a new line character (’\n’) in a line, so after reading a word, int, double, etc there is still a ‘\n’ character to read, so you must “eat” the rest of the line to read the next line.
Loops
Write a for loop that prints each character in the predefined variable String \textit{s} separated by an ampersand (\&) all on the same line.
for (int i = 0; i < s.length(); i++)
    System.out.print(s.charAt(i) + "&");
Write a for loop that prints the reverse of the String variable s.
for (int i = s.length() -1; i >= 0; i--)
    System.out.print(s.charAt(i));
Write a while loop that prints the numbers 3 – 9 (inclusive) separated by new lines.
int i = 3;
while (i <= 9) {
    System.out.println(i);
    i++;
}
Write a do-while loop that will add the sum of all numbers from 1 - 19 (inclusive).
int count = 1;
int sum = 0;
do {
    sum += count;
    count++;
} while(count < 20);
What does the following code print?

```java
for (int l = 0; l > 0; l++)
    System.out.println(l);
```
nothing
Which one of these would not go to the end of String s? (Specify which ones cause errors and which ones are just incorrect (but they compile)?)

A. for (int i = 0; i <= s.length(); i++)
B. for (int i = 0; i < s.length()+1; i++)
C. for (int i = 0; i < s.length(); i++)
D. for (int i = 0; i <= s.length() -1; i++)
E. for (int i = 0; i < s.length() -1; i++)
A gives an error (goes one more)
B gives an error (goes one more)
C is correct
D is correct
E is incorrect only goes to the second to the last index
Arrays
Declare and allocate a String array called sArray to be of size 10.
String [] sArray = new String [10];
Declare and initialize an int array called `iArray` with the values 1, 2, 3 (in that order).
int [] iArray = {1, 2, 3};
Given the predefined 1D String array called **stringArray**. Print the length of the array (with a new line).
System.out.println(stringArray.length);
Declare and allocate a 4x7 2D char array called `letters`. 
char [][] letters = new char [4][7];
Print each element of the predefined 2D byte array called \textbf{b} (every element should be printed on the same line, with a new line at the very end)
for (int i = 0; i < b.length; i++)
    for (int j = 0; j < b[i].length; j++)
        System.out.print(b[i][j]);
System.out.println();
Declare and assign a 3x3 2D double array, called **doubleTable**, with all of the values assigned to 2.0.
double [][] doubleTable = new double [3][3];
for (int i = 0; i < doubleTable.length; i++)
    for (int j = 0; j < doubleTable[i].length; j++)
        doubleTable[i][j] = 2.0;

OR

double [][] doubleTable = {{2.0, 2.0, 2.0},
                          {2.0, 2.0, 2.0},
                          {2.0, 2.0, 2.0}};

// spacing doesn’t change anything
What does the following code print?

```java
public class Practice {
    public static void main (String [] args) {
        int [ ][ ] array_name = new int [ 4 ][ 7 ];
        int num = 1;
        for (int row = 0; row < array_name.length; row++)
            for (int col = 0; col < array_name[row].length; col++)
                array_name[row][col] = num++;
        for (int i = 0; i < array_name.length; i++) {
            for (int j = 0; j < array_name[i].length; j++)
                System.out.printf("%s ", array_name[i][j]);
            System.out.println();
        }
    }
}
```
prints the February calendar

1 2 3 4 5 6 7
8 9 10 11 12 13 14
15 16 17 18 19 20 21
22 23 24 25 26 27 28
What does this code print?
Note: ASCII value of ‘a’ is 97 and ‘b’ is 98.

```java
import java.util.Arrays;

public class Practice {
    public static void Foo (int [] array, char a, char b){
        for (int i = 0; i < array.length/2; i++)
            array[i] = a;
        for (int i = array.length/2; i < array.length; i++)
            array[i] = b;
    }

    public static void main (String [] args) {
        int [] iArray = new int [10];
        Foo(iArray, 'a', 'b');
        System.out.println(Arrays.toString(iArray));
    }
}
```
Methods
1. What is the return value of this method?
2. What does this method do?
3. How would I call this method?

```java
public class Practice {
    public static char Foo (String s) {
        return s.charAt(s.length()-1);
    }
}
```
1. `char`
2. returns the last character of `s`
3. `Foo("someString");` or
   `Foo(someStringVariable);`
1. What is the return value of this method?
2. How would I print the result of this method (in the main method)?

```java
public class Practice {
    public static boolean full0CleverNames() {
        int i = 32;
        double d = 32.3;
        if (i == Math.floor(d))
            return true;
        else
            return false;
    }
}
```
1. boolean
2. System.out.println(fullOCleverNames());
Create a public static method called **caster**, that returns a double, it takes an int as a parameter. Return the double, caused from typecasting the parameter.
public static double caster (int i) {
    return (double)i;
}
Create a public static method called `printMe`, that returns nothing and takes a float as a parameter. Print the float with 8 decimal points with a new line.
public static void printMe (float f0) {
    System.out.printf("%.8f\n", f0);
}

Create a public static method stub (no code inside) called `practice`, that returns a char and takes an int and a String as a parameter.
public static char practice (int i, String s);

// you can have any parameter variable names
Create a public static method stub (no code inside) called `practice1`, that returns nothing and has no parameters.
public static void practice1 ();
What does the following code print?

```java
import java.util.Arrays;

class Practice {
    public static void multiplier (double d, int [] array) {
        for (int i = 0; i < array.length; i++)
            array[i] *= d;
    }
    public static void main (String [] args){
        int [] array = {1, 2, 3, 4, 5};
        multiplier(3, array);
        System.out.println(Arrays.toString(array));
    }
}
```
[3, 6, 9, 12, 15]