Java...

Please, what does `l = arg1, l = arg2` mean...
Review from first exam
Name the 8 primitive type variables
int, double, float, short, long, char, boolean, byte
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();
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));
Declare a Scanner that reads from the keyboard. Write a do-while loop that asks the user “Are we there yet?”, give the user instructions (for example “yes will stop this loop”), store their response into a String variable, and stop the loop when the word is “yes”. NOTE: you can assume that the user will only enter a one word response.
Scanner keys = new Scanner (System.in);
String word = "";
do {
    System.out.println("Are we there yet?");
    System.out.println("Enter yes to stop");
    word = keys.next();
    word = word.toLowerCase();
} while (!word.equals ("yes"));  // could also use
    // equalsIgnoreCase
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.
Review for exam 2: 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 $b$ (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 do?

```java
int[][] array_name = new int[4][7];
int i = 1;
for (int row = 0; row < array_name.length; row++)
  for (int col = 0; col < array_name[row].length; col++){
    array_name[row][col] = i;
    i++;
  }
```
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 do?

```java
public 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;
}
```
Makes the first half of array the ascii value of the a variable and the second half of the array to be the ascii value from the b variable.
Review for exam 2: methods
public class StudySession {
    public static char Foo (String s) {
        return s.charAt(s.length()-1);
    }
}

1. What is the return value of this method?
2. What does this method do?
3. How would I call this method?
1. char
2. returns the last character of s
3. Foo("someString"); or
   Foo(someStringVariable);
public class StudySession {
    public void Foo1 (char c, int i) {
        System.out.println(c + i);
    }
}

1. What is the return value of this method?
2. What does this method do?
3. How would I call this method?
1. void (doesn’t return anything)
2. adds the ascii value of c with i (prints a number not a character)
3. public static void main (String [] args) {
   StudySession SS = new StudySession();
   SS.Foo1(some char, some number);
}
1. What is the return value of this method?
2. How would I print the result of this method (in the main method)?
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 non-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 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 ();
public class CoolName {
    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]
Review for exam 2: Objects
Make a StudentData object called student1 with id: 123, first name: James, last name: Bond

```java
class StudentData {
    private int id;
    private String firstName, lastName;
    public StudentData (int num, String first, String last) {
        id = num;
        firstName = first;
        lastName = last;
    }
}
```
StudentData student1 = new StudentData (123, “James”, “Bond”);
Declare and allocate an array of StudentData objects called “CS163” to have a size of 3.

```java
public class StudentData {
    private int id;
    private String firstName, lastName;
    public StudentData (int num, String first, String last) {
        id = num;
        firstName = first;
        lastName = last;
    }
}
```
StudentData [] CS163 = new StudentData [3];
Use the following information to create three StudentData objects and store into the CS163 array from Part A.

- 1 Rob Drobs
- 2 Bob Crobs
- 3 Steve Jobs

```java
public class StudentData {
    private int id;
    private String firstName, lastName;
    public StudentData (int num, String first, String last) {
        id = num;
        firstName = first;
        lastName = last;
    }
}
```
CS163[0] = new StudentData (1, "Rob", "Drobs");
CS163[1] = new StudentData(2, "Bob", "Crobs");

OR

StudentData sd1 = new StudentData(1, "Rob", "Drobs");
CS163[0] = sd1;
StudentData sd2 = new StudentData(2, "Bob", "Crobs");
CS163[1] = sd2;
StudentData sd3 = new StudentData(3, "Steve", "Jobs");
CS163[2] = sd3;
Write a `toString` method such that when an object is printed the format is:
`id, lastName, firstName`

```java
public class StudentData {
    private int id;
    private String firstName, lastName;
    public StudentData (int num, String first, String last) {
        id = num;
        firstName = first;
        lastName = last;
    }
}
```
@Override
double x = 2.0;
double y = 3.0;

Note: Override is optional, but suggested
When do you need to use the keyword “this”?
When you are accessing class variables that have the same name as a local variable.

E.g. if (this.name == otherObject.name)
    OR
    public class Student {
        private String name;
        public Student (String name) {
            this.name = name;
        }
    }