Advanced Java Final Exam Multiple Choice & Explain Questions:

The following questions will appear on the Final Exam. The source code for the programs are available in a zip file from the class web site under Final Exam Take Home Part.
Before you compile and run them, try and guess the answers. The intent here is not to blow your mind but to illustrate some of the finer details of the Java language. Enjoy!

(1)

```java
class LastLaugh {
    public static void main(String[] args) {
        System.out.print("H" + "a");
        System.out.print('H' + 'a');
    }
}
```

What is the output of this program? _______________________

Explain.

(2)
Orwell has written this program claiming all animals are equal. What is the output of the program:

   a. Animals are equal: true
   b. Animals are equal: false

Explain:

```java
class AnimalFarm {
    public static void main(String[] args) {
        final String pig = "length: 10";
        final String dog = "length: " + pig.length();
        System.out.println("Animals are equal: " + (pig == dog));
    }
}
```
(3) Babu has located a program that he says shows how print and println work such that a line feed will not be generated until println occurs.

```java
/**
 * Generated by the IBM IDL-to-Java compiler, version 1.0
 * from F:\TestRoot\apps\a1\units\include\PolicyHome.idl
 * Wednesday, June 17, 1998 6:44:40 o'clock AM GMT+00:00
 */
public class Babu {
    public static void main(String[] args) {
        System.out.print("Hello");
        System.out.println("o world");
    }
}
```

Will this program compile and print **Hello world**?

a. Yes  
b. No

If No, modify the program so that it does compile and print **Hello world**.

(4). What is THIS?

Loopo says that this ugly stuff is not really ugly but a fabulous program he has written.

Will this compile?

a. Yes  
b. No

If yes, what is the output?

```java
\u0070\u0075\u0062\u006c\u0069\u0063\u0020\u0020\u0020\u0020\u003b
\u0075\u0067\u006c\u0079\b\u0070\u0075\u0062\u006c\u0069\u0063\u0020\u0020\u0020\u0020\u0073\u0074\u0061\u0074\u0069\u0063\u0020\u006d\u0061\u006e\u0020\u0028\u0053\u0074\u0069\u006e\u0074\u006c\u006e\u0020\u0022\u0048\u0065\u006c\u006f\u0022\u002b\u0022\u006f\u0072\u006c\u0064\u0022\u0029\u007b\u007d
```
import java.util.Random;

public class RolloRhyme {
    private static Random rnd = new Random();

    public static void main(String[] args) {
        String word = "";
        switch(rnd.nextInt(2)) {
            case 1: word = word + "P";
            case 2: word = word + "G";
            default: word = word + "M";
        }
        word+='a';
        word+='i';
        word+='n';
        System.out.println(word);
    }
}

Will Rollo’s program compile:
    a. Yes
    b. No

Will Rollo’s program randomly print either Pain, Gain or Main?
    a. Yes
    b. No

If No, what is Rollo’s problem. Make whatever changes to the program are needed to make Rollo’s program randomly print Pain, Gain or Main.