CS 1083
Introduction to Computer Programming I for Computer Scientists
Midterm

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NAME:________________________

Instructions
1. Do all of the 4 problems
3. You have 50 minutes for the exam
4. Show all your work
5. Do not separate midterm papers

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public class PrintMethodCalls {
    public static void main(String[] args) {
        System.out.println("main method begins");
        methodA();
        methodA();
        methodB();
        System.out.println("main method ends");
    }
    public static void methodA() {
        methodB();
        System.out.println(" o ");
        System.out.println(" /\ ");
        System.out.println(" / \ ");
    }
    public static void methodB() {
        System.out.println("------------");
    }
    }

2. (25 pts) What is printed by the following program? Show all your work for partial credit.

```java
public class ForLoop {
    public static void main(String[] args) {
        int j=0, i=2;
        System.out.println(j+j+" "+i);
        for (j=1; j<10; j=j+2) {
            System.out.println(j*j+" "+i);
            i=i+1;
        }
        System.out.println(j+j+" "+i);
    }
}
```
3. (25 pts) Write a complete program to compute the volume of a sphere given its radius. Read the radius from the user. Compute the volume and print it. Sample execution of the program is given below.

Enter radius
1.1
Volume = 5.572453333333335

The formula for computing the volume of a sphere is given below. Use 3.14 for $\pi$ in your program.

\[ volume = \frac{4}{3} \pi \cdot radius^3 \]
4. (25 pts) The following program uses nested for loops to print the table given below. Complete the program.

```
2 3 4 5 6 7
3 4 5 6 7 8
4 5 6 7 8 9
5 6 7 8 9 10
6 7 8 9 10 11
7 8 9 10 11 12
```

```java
public class NestedTable {
    public static void main(String args[]){
        //end of main
    }
} //end of class
```