Tutorial 9

You will be expected to engage with the tutor and discuss solutions to the problems presented here.

1. Draw a UML class diagram showing an inheritance hierarchy containing classes that represent different types of clocks. List the details (variables and method names) for at least two classes.

2. Draw a UML class diagram showing an inheritance hierarchy containing classes that represent different types of transactions at a store (cash, credit card, etc.). Show some appropriate variables and method names for at least two of these classes.

3. Experiment with a simple derivation relationship between two classes.
The names of the classes is not important.

Put `println` statements in constructors of both the parent and child classes. As illustrated below, do not explicitly call the constructor of the parent in the child.

```
public class A {
    public A() {
        System.out.println("A");
    }
}

public class B extends A {
    public B() {
        System.out.println("B");
    }
}
```

What happens if you create an instance of the child class? Why?

Change the child's constructor to call the constructor of the parent. Now what happens?

4. Design and implement a set of classes that define various topics in your degree. Include information about each topic such as the title, number, description, and College that teaches the topic. Consider the categories of classes that constitutes your curriculum when designing your inheritance structure. Create a main driver class to instantiate and exercise several of the classes.