

CIS 120 : PROGRAMMING LANGUAGES AND TECHNIQUES

QUIZ : February 6<sup>th</sup> & 7<sup>th</sup>, 2007

- (1) You have been asked to create a model of a lottery ticket generating system. Create a class called `LotteryTicketFactory` and a nested class in `LotteryTicketFactory` called `LotteryTicket`. `LotteryTicketFactory` will have a `nextTicket()` method which will return a new `Ticket` and a `ticketsGenerated` method which will return the number of tickets created. The constructor for the `LotteryTicket` class should take one argument, the ticket number, which must be unique from ticket to ticket (an easy way to do this is use the ticket number). 10 points

You will be graded on both functionality and coding style.

```
/**
 * A Factory class which generates Tickets with unique numbers
 */
public class LotteryTicketFactory{
    private static int counter;

    public Ticket nextTicket(){
        return new LotteryTicket(counter++);
    }

    public int ticketsGenerated(){
        return counter;
    }

    /**
     * A ticket class which models a LotteryTicket
     */
    public class LotteryTicket{
        private int ticketNumber;

        public LotteryTicket(int num){
            ticketNumber = num;
        }
    }
}
```

- (2) Using the following class, `Building`, complete the following DrJava interactions: 5 points

```
public class Building{
    public String name;
    public Building(String name){
        this.name = name;
    }
}

> Building grw = new Building("Graduate Research Wing");
> grw.name

"Graduate Research Wing"

> Building levine = new Building("Levine");
> grw = levine;
> grw.name

"Levine"

> levine.name = "Levine Hall";
> grw.name

"Levine Hall"
```