

Quiz 4 - Midtermish

Study Guide / Practice Problems

Topics:

- Inheritance (child classes and overriding)
 - Modules:
 - 09, 12, 13, 14, 15 (practice problems)
 - You should know:
 - How to override equals method multiple times
 - How to override hashCode / toString multiple times
 - How to make a child class extend a parent
- Hashcode
 - Modules:
 - 12, 13
 - You should know:
 - How to override hashCode long way
 - How to override hashCode using Objects.hash
- Old Quizzes / Study guides

Study Material:

- Materials listed above, lab 5 part 2, old study guides.

Practice problems

1. Inheritance

Overriding Equals, hashCode, toString

Given the following classes, fill in the TODOs.

```
public class Contestant
{
    private int airtime; // airtime, in minutes

    public Contestant(int airtime) {this.airtime = airtime;}

    public String toString() { return "Airtime (min): " + airtime;
}

    public boolean equals( Object o
    {
        if (o == null) {return false;}
        if (o.getClass() != this.getClass()) {return false;}
        Contestant c = (Contestant) o;
        return this.airtime == c.airtime;
    }
}
```

```
public class Bachelor extends Contestant
{
    private int rosesLeft;

    /* TODO: Complete the constructor below. Fill in the
    * parameter and write the code*/
    public Bachelor(
```

```

/* TODO: Complete the toString method such that it would
    return a String in the following format:

    Roses left: <rosesLeft>
    Airtime (min): <airtime>

    For example:

        "Roses left: 5
        Airtime (min): 500"
*/
public String toString()
{

}

/* TODO:) Complete the equals method below.  Fill in the
*      parameter and write the code*/
public boolean equals(                )
{

}

}

```

2. Overriding hashCode

- a. Override the hashCode method for the Student class by hand (assume a Student class has two variables - a double gpa, and a int named studentLoans)
- b. Override the hashCode method for the Student class using any of the Objects methods you want: