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HW 9

1. **Problem: Write class for MonsterTruck**

```java
public class Main {

    public static void main(String[] args) {
        //problem 4
        MonsterTruck m = new MonsterTruck();
        m.m1();
        m.m2();
        System.out.println(m.toString());
    }

}
```

```java
public class MonsterTruck extends Truck {

    public void m1(){
        System.out.println("monster 1");
    }

    public void m2(){
        super.m1();
        super.m2();
    }

    public String toString(){
        return "monster " + super.toString();
    }
}
```

Command Console:

monster 1

truck 1

car 1

monster vroomvroom

2. **Create a MinMaxAccount inheriting from BankAccount**

```java
public class MinMaxAccount extends BankAccount{

    int minBal;
    int maxBal;

    public MinMaxAccount(int s){
```

```java
            super(s);
            minBal = s;
            maxBal = s;

    }


    public void debit(int d){
        super.debit(d);

        if(minBal > super.getBalance()){
            minBal = super.getBalance();
        }
        if(maxBal < super.getBalance()){
            maxBal = super.getBalance();
        }
    }

    public void credit(int c){
        super.credit(c);
        if(minBal > super.getBalance()){
            minBal = super.getBalance();
        }
        if(maxBal < super.getBalance()){
            maxBal = super.getBalance();
        }
    }

    public int getMin(){
        return minBal;
    }

    public int getMax(){
        return maxBal;
    }

}

public class Main {

    public static void main(String[] args) {


        //problem 9
        MinMaxAccount sue = new MinMaxAccount(45);
        sue.credit(-100);
        sue.debit(-99);
        System.out.println("Current balance is " + sue.getBalance());
        System.out.println("The max balance in record is " + sue.getMax());
        System.out.println("The min balance in record is " + sue.getMin());
    }
}
```

Command Console :

Current balance is -154

The max balance in record is 45

The min balance in record is -154

3. Create Octagon class from Shape interface

```java
public class Octagon implements Shape{
    double sideLen;

    public Octagon(double sideLength){
        sideLen = sideLength;

    }

    public double getArea(){
        return 2*Math.pow(sideLen,2)*(1+Math.sqrt(2));
    }

    public double getPerimeter(){
        return 8*sideLen;
    }

}
```

```java
public class Main {

    public static void main(String[] args) {
        //problem 15
        Octagon oct = new Octagon(2);
        System.out.println(oct.getArea());
        System.out.println(oct.getPerimeter());
    }
}
```

Command Console:
The area of octagon is 19.31370849898476
The perimeter of octagon is 16.0