1. Log in
2. Unit 4
   - Writing Methods
   - Recursion
   - Classes, Methods, and Objects

Mar 9-11:28 AM

Today:

The beginnings of a baseball game ...

1. Create default constructor method for batters
2. Create constructor method for specific batters
3. Simulate a pitch ... is it a hit (use the batter's avg)
4. Method: isItHit();
5. Method Overloading - more than one method with the same name is ok if different parameter list.

Nov 7-12:23 AM

Method Overloading:

Having more than one method with the same name can be OK ...

As long as they have a different parameter list ...

```
public batter( ) {
    name="";
    average=0;
}
public batter(String nm, double avg)  {
    name=nm;
    average=avg;
}
```

Nov 9-12:38 PM

More Method Terminology:

Instance Methods

Methods (Constructors, Mutators, Accessors) that change specific instances of objects.

```
public double getAverage( ) {
    return average;
}
```

Nov 9-12:38 PM

More Method Terminology:

Static Methods

Perform actions for all instances of objects. They typically track information that all instances may use or perform an action that might be needed by any/all instances.

```
public static void isItHit(double avg) {     //static...done for all instances
    double outcome=Math.random();
    if(outcome<=avg)
        System.out.println("HIT!\tavg = "+avg+"\toutcome = "+outcome);
    else
        System.out.println("No Hit ... batter out!");
}
```

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More Variable Analysis:

Instance Variables

Accessed by using the instanceName

```
instanceName.variableName;

OR

instanceName.methodName( );
```

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More Variable Analysis:

Static Variables

Accessed by using the class name

className.variableName;

OR

className.methodName( );

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Things to do ...

1. Be wrapping up all Unit 04 WS01-08 Worksheets
2. Exam coming up soon!

Nov 6-3:25 PM

```
package unit4;
import java.util.*;

public class batter {
   double average;
   String name;
   public batter() {      //default constructor
      average=0;
      name="";
   }
   public batter(String nm, double avg) {
      name=nm;
      average=avg;
   }
   public static void isItHit(double avg) {//static...done for all instances
    double outcome=Math.random();
    if(outcome<=avg)
        System.out.println("HIT!!avg = "+avg+"!outcome = "+outcome);
    else
        System.out.println("No Hit ... batter out!");
   }

   public static void main(String[] args) {
      Scanner getInfo = new Scanner(System.in);
      System.out.println("Batter Up!");
      System.out.print("Enter batter's name: ");
      String batterName=getInfo.nextLine();
      System.out.print("Enter batter's avg.(decimal): ");
      double batterAVG=getInfo.nextDouble();
      batter b1 = new batter();
      b1.name=batterName;
      b1.average=batterAVG;
      System.out.println("Here's the pitch ...");
      System.out.println(b1.name+" swings and ...");
      isItHit(batterAVG);
      //notice there are two constructor methods ... OK,diff parameters
      batter b2 = new batter("Teemo", 0.298);
      System.out.println("");
      System.out.println("Now batter is "+b2.name);
      System.out.println("Here's the pitch ...");
      System.out.println(b2.name+" swings and ...");
      isItHit(b2.average);
   }
}
```

Nov 9-1:10 PM