

JAVA Assignment



Java Assignment 4.5: OO Practice with Student Class

Ver 2.0 Last Updated: 5/22/2019

Object Oriented Programming is a really neat concept.
What do you mean, mr Hanley, tell me more!!

1. Some programs are organized into classes, each with its own responsibility.
2. Classes act as software blueprints to create objects.
3. To access object features, we use the member operator .

The Lambert text Java, a complete course in programming and problem solving features an example Student class.

Feel free to watch the Object Oriented Programming slideshow from mr Hanleys Java Documents page to help understanding the concepts.

This class models an individual student.

On this assignment, you will be copying the Student.java file into your project and making a second file called StudentTester

The StudentTester will have a **main** method

The Student.java does **not have a main method**, so you will have to run the StudentTester

Create a java project called StudentDemo

Add the Student.java program from mr Hanley's web site to your project (either copy and paste the text and create your own Student.java class or copy the file into the src folder of your project)

Make a StudentTester class

Add a main method and create 4 students as follows;

```
public static void main(String[] args) {  
    Student s1 = new Student();  
    Student s2 = new Student();  
    Student s3 = new Student();  
    Student s4 = new Student();  
  
    s1.setName("Mike Smith");  
    s1.setScore(1,90);  
    s1.setScore(2,95);  
    s1.setScore(3,88);  
    System.out.println("Here is info for " + s1.getName());  
    System.out.println(s1.toString());  
    ...  
  
}
```

Make 4 objects and set their values.

Print out their information to the screen.

Remember "setters" set values in the object and "getters" return those values so you can print them

Now, attempt to augment these programs in some way;

1. Add a club variable to the Student class, store each students club that they are part of
 - a. Change the toString so that it also prints their club
2. Add in a project grade in addition to the three tests; make an overall grade which is weighted between the tests and the project
3. CHALLENGING: Change it so that there is an array of 10 tests instead of 3 fixed tests
4. Add in a calculation for the honor roll....set a certain cut off for grades
5. Change the test1, test2 and test3 to be times for a swim event
 - a. Change the values to doubles so you can store the number of seconds
 - b. Change the getHighestScore to getLowestTime
6. Change the test scores to something sports related;
 - a. Keep track of stats for an athlete

Write a paragraph of at least 300 words of what you learned about object oriented programming from this assignment.

Staple your paragraph on top of your Student.java and your StudentTester.java

You will be graded based on a paragraph of text on what you learned



Project Name	Assign 4_5 StudentDemo
Class1 Name	Student
Class2 Name	StudentTester

Rubric	
Paragraph of at least 300 words on what you learned (words don't count any example code)	50