

PBL: Grade Book Part 1: class Assignment

This assignment continues the project to create software for a school grade book that will hold the scores that students received for their assignments.

You should have completed coding and testing `class Student`, where each `Student` object contains a single student's student number, family name, and given names.

You should also have considered the information that should be stored in an `Assignment` object. So that we may keep all students approximately working approximately on the same, follow the minimum specifications for the `class Assignment` below. Compare your design to the specifications. You are permitted to add additional information to the `Assignment` class, but for compatibility, maintain the minimum specifications given.

Part 1

Write `class Assignment` such that contains private instance fields to store:

- the name of the assignment
- the maximum score possible, an integer value
- an assignment number that is assigned serially:
The first assignment object is to be numbered 1, the second assignment object is to be numbered 2, etc. This will require a static field to keep track of the number of assignment objects created that is initialized to a value, and incremented each time the constructor is called.

Include the following methods:

- a constructor that sets every instance field and increments the counter for the number of assignments
- getters: `getName`, `getMaxScore`
- a static getter to get the number of assignment objects created: `getNumberOfAssignments`
- an appropriate `toString` method

Part 2

Write `class TestAssignment` that:

- has a `main` method (and other methods, if helpful)
- instantiates a few `Assignment` objects
- tests all the methods within the `Assignment` class

PBL: Grade Book Part 1: class Assignment

```
1 public class Assignment {
2     static private int numberOfAssignments = 0;
3     private String name;
4     private int maxScore;
5     private int assignmentNumber;
6     public Assignment(String name, int maxScore) {
7         this.name = name;
8         this.maxScore = maxScore;
9         Assignment.numberOfAssignments++;
10        this.assignmentNumber = numberOfAssignments;
11    }
12    public static int getNumberOfAssignments() {
13        return Assignment.numberOfAssignments;
14    }
15    public String getName() {
16        return this.name;
17    }
18    public int getMaxScore() {
19        return this.maxScore;
20    }
21    public int getAssignmentNumber() {
22        return this.assignmentNumber;
23    }
24    @Override
25    public String toString() {
26        return this.name;
27    }
28 }
```

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```
1 public class TestAssignment {
2     public static void main(String[] args) {
3         Assignment a1 = new Assignment("Primitive Types Assign", 10);
4         Assignment q1 = new Assignment("Primitive Types Quiz", 20);
5         Assignment a2 = new Assignment("Selection (if)", 10);
6
7         printAssignmentDetails(a1);
8         printAssignmentDetails(q1);
9         printAssignmentDetails(a2);
10
11        // Test toString method
12        System.out.println(a1 + "\n" + q1 + "\n" + a2);
13    }
14    public static void printAssignmentDetails(Assignment a) {
15        System.out.print(a.getAssignmentNumber() + " ");
16        System.out.println(a.getName());
17        System.out.print("    Max Score: " + a.getMaxScore());
18        System.out.print("\n\n");
19    }
20 }
```

```
1 Primitive Types Assignment
   Max Score: 10
2 Primitive Types Quiz
   Max Score: 20
3 Selection (if)
   Max Score: 10
Primitive Types Assignment
Primitive Types Quiz
Selection (if)
```