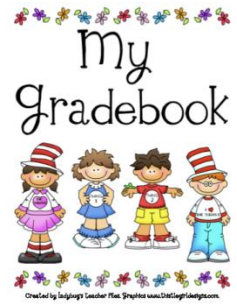


# APCS – Mr. Ascione

## AP Gradebook



### OBJECTIVE:

This lab will give you further experience using ArrayLists alongside standard arrays.

### BACKSTORY:

Professor Ascione needs a new grading program. OnCourse is ok, but he figures why not use Java to customize the whole experience? In speaking with the professor, you find out that not all students have the same number of grades... some are out during a test, and some of them don't turn in all of their programs – don't be one of those! The number of students in each class is also variable. How will you accommodate this in your code?

It turns out our beloved professor once wrote this very program but has since lost most of the code... all he has left is a template – oh no! Can you restore order to the universe and finish the missing code? Will Sally get an "A" in APCS? Will Lassie rescue little Timmy from the well? Finish the code to find out!

**SPEC:** Often, we need to work with both standard arrays and ArrayLists. In this project, you will be using both standard arrays and ArrayLists to implement a fully functional basic form of a grading program. The program will simply list the course, each student with their grades and average, followed by the overall average for the class.

**ENHANCEMENTS:** There are lots of ways to improve upon this program... GUI, File I/O etc. If you finish early, see what you can come up with!

### SAMPLE OUTPUT:

```
C:\Windows\system32\cmd.exe
Course: APCS
Bird, Tweety      Grades: [66, 54, 21, 98, 88]   Average: 65.4
Bunny, Bugs      Grades: [90, 88, 100, 100, 88]  Average: 93.2
Bunny, Lola      Grades: [95, 100, 100, 98, 87]  Average: 96.0
Cat, Sylvester   Grades: [45, 23, 62, 99]       Average: 57.25
Devil, Taz       Grades: [84, 99, 77, 100]      Average: 90.0
Class Average: 80.37
Press any key to continue . . .
```

### TEST CASES:

As listed in the Sample Output above.

### Files Needed:

**Student.java**

**Course.java**

**CourseRunner.java**