

Lab Goal : This lab was designed to teach you more about arrays of references.

Lab Description : You will modify the existing gradebook program.

Gradebook Extension 1 : Use file input.

Sample Output :

Welcome to the Class Stats program!

```
AP Computer Science AB
Hardly Surviving = 70.2 65.3 45.1      60.20
Sammy Morgan = 100.0 100.0 100.0 100.0 100.00
Ben Jamin = 95.1 99.2 86.4      93.57
Sally Brainbaum = 100.0 100.0 100.0 100.0 99.0 99.80
Shude Studymore = 76.0 81.6 79.2 88.8 81.40
Bart Simpson = 95.1 99.2 86.4 100.0 100.0 100.0      96.78
Chicken Little = 100.0 100.0 100.0 100.0 45.0 89.00
Marky Mark = 1.0 95.0 48.00
```

```
Failure List = Hardly Surviving Marky Mark
Highest Average = Sammy Morgan
Lowest Average = Marky Mark
Class average = 83.59375
```

Files Needed ::

```
Grades.java
GradesTester.java
Student.java
StudentTester.java
Class.java
ClassTester.java
GradeBookFileRunner.java
gradebook.dat
```

Gradebook Extension 2 : Modify the Student class so it implements the Comparable interface. Add equals and compareTo methods to Student and add a sort method to Class to sort all students in the class from low to high using each student's average as the only sort criteria. Modify the getStudentWithLowAverage and getStudentWithHighAverage methods after implementing the Comparable interface.

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Sammy Morgan = 100.0 100.0 100.0 100.0 100.00
```

```
Failure List = Marky Mark Hardly Surviving
```

Highest Average = Sammy Morgan
Lowest Average = Marky Mark
Class average = 83.59375