

FINAL AVERAGE

CLASS DESIGN FRQ

AP Computer Science A
Midterm Exam Review

The `FinalAverage` class is used to store and calculate student grades. It has a field which is an array of integers called `grades`. The class also has two other boolean fields which record the rigor of the class called `isHonors` and `isAP`.

Below is an example of a call to the constructor to represent the following grades:

93	120	65	88	105	90
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```
FinalAverage compSciA = new FinalAverage({93,120,65,88,105,90}, false, true);
```

100	95	98	82
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```
FinalAverage eng3H = new FinalAverage({100,95,98,82}, true, false);
```

The `FinalAverage` class has several methods, including the method `getAverage` which returns a double. In calculating the final average, each grade is weighted exactly the same. If the class is an Honors class, then 5 points are added; 10 points are added to AP classes.

The `FinalAverage` class also has a method called `dropLowest` which searches for the minimum values in `grades` and removes it from the class field. The resulting array should be the correct size to hold the remaining grades without the minimum and the order of the recorded grades should remain unchanged. The method should return the value of the grade that is dropped.

Below are examples of the method calls and their effects using the example constructed above.

```
double avg = compSciA.getAverage();    // avg has a value of 93.5
int lowGrade = compSciA.dropLowest();  // lowGrade has a value of 65
double avgDrop = compSciA.getAverage(); // avg has a value of 99.2
```

Write the `FinalAverage` class on the next page.

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Write the `FinalAverage` class in the space below.

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- +1 Class header
- +1 PIVs
- +1 Constructor header
- +1 Initialize all PIVs
- +1 Both method header
- +1 Calculate/return correct formula
- +1 Correct precision when dividing
- +1 Access/modify all values NBE
- +1 Return correct boolean