

Q1: Discuss Assignment #4, and answer the questions below:

- **Write the pseudocode for the algorithm you are going to use to allow the user to enter the grading categories in any order. How will this algorithm differ when you read the option for the final project category?**

Here is the pseudocode:

1. Prompt the user:
Here are your options for class evaluation categories:
q – quizzes
a – assignments
l – labs
t – tests/exams
f – final project
d – done entering categories
2. Prompt to select a category. Keep prompting until all are selected (allow to skip final project if they want). For example:
 - a. **Please select a category [q, a, l, t, f, d]: a**
Please enter the number of assignments: 8
 - b. **Please select a category [q,a, l, t, f, d]: t**
Please enter the number of tests/exams: 2
3. Prompt user for specific scores in each category.
 - a. Assignment 1:
 - b. Assignment 2:
 - c. ...
 - d. Quiz 1:
 - e. Quiz 2
4. Calculate score based on the weights:
 - Labs – 10%
 - Quizzes – 10%
 - Assignments – 40%
 - Tests – 30%
 - Final Project – 10%
5. Print the Class average.

For the final project they don't enter a number, it prints "You do not need to enter a number for final projects!"

Basically the algorithm lets them pick whatever option they want. If they pick done before entering at least the minimum required (quizzes, assignments, labs, test/exams) then it won't let them.

- **Describe your plan to keep the main method under 20 lines of code. What tasks will the main method perform? What methods will main call? Based on your answers to these questions and the algorithm provided, approximately, how many lines of code will be in your main method?**

To keep the main method under 20 lines I made methods for every operation. I have a method that prints the welcome header, a method that prints that gets the categories and amounts from the user. I have a method that gathers the scores, a method that calculates the average based on the input and a method that prints the class average.

Not counting comments or spacing my main method has 8 lines. It could be done in less, 4 at least. This would be accomplished by creating another method the calls `getScores` and sets the average variables.

```
public static void main(String[] args) {  
    //variables  
  
    //Start by gathering the information.  
    printHeader();  
    //Set the categories and amounts  
    setCatsAmts();  
    //Get user to input the scores  
    quizAverage = getScores(quizAmount, "Quiz");  
    assignAverage = getScores(assignAmount, "Assignment");  
    labsAverage = getScores(labsAmount, "Lab");  
    testsAverage = getScores(testsAmount, "Test/Exam");  
    if (finalEntered) finalAverage = getScores(1, "Final Project");  
    //Calculate the average.  
    //Print the result.  
    printClassAvg(calcAvg());  
  
}
```