





(30 pts) Approx. 2 days

The final part of our unit asks you to create a program to meet the needs of you and your fellow students. Very often, when programmers are asked to create a program for someone else, they are given the parameters (criteria) and the programmer gets to decide *how* to make the program work. Here, you've been tasked with creating a small gradebook application that can help students summarize and check their grades.

1. Brainstorm different ideas for how your Gradebook program can work. Write a full page of notes, ideas, and thoughts about how to organize your program to meet the needs of the client. The program you are being asked to make must:
  - a. Let the user enter a variety of assignment types (at least 2: *quizzes* and *homework*).
  - b. Let the user enter a variety of assignment grades
  - c. Let the user enter the grades and assignments in any order
  - d. When the user is done entering assignments, the program should tell them some information:
    - i. How many assignments were listed for each type (how many quizzes, how many homeworks, etc)
    - ii. How many of the total list of assignments were A's, B's, C's, D's, or F's
    - iii. What the average score (based on either points OR percentages... whichever you like best) on all assignments was
    - iv. Assuming the upcoming final would be worth 15% of the course grade (and all entered assignments were the remainder of the grade), what grade would the student need on the final to earn their desired course grade.
  - e. The program should be relatively easy to use and easy to understand.
  
2. *Log 3: Control Structures* The last part of our unit should be a 1-page response to the ideas of Java and control structures. How do you define the 5 control structures? How do you see them as different from each other? What possible uses can you think of for each? Look up what a *switch* is and compare it to our control structures. Look up a *do-while* and compare it to our control structures. How is class going so far? What questions do you still have that you haven't gotten answered yet?

Part 3: Tasks	5 points	4-3 points	2-1-0 points
 Gradebook Brainstorm Notes	+ You wrote a full page of brainstorm, ideas, and notes about how to structure your program + Your notes outline a <b>PLAN</b> for your program	- You wrote less than a page - Your notes do not outline a coherent plan	- Your notes are lacking or missing - There is no plan for your program
	<b>15-10 points</b>	<b>9-5 points</b>	<b>4-0 points</b>
 Create Your Gradebook	+ You created a gradebook program that meets all the criteria listed above. + Your gradebook works as intended	- Your gradebook program does not meet some criteria - Your gradebook program mostly works	- Your gradebook program does not work at all
	<b>10-8 points</b>	<b>7-4 points</b>	<b>3-0 points</b>
 Log 3: Control Structures	+ You wrote a complete page in your engineering notebook + Your response addresses all the questions in the prompt provided	- You wrote less than a full page	- You wrote less than half a page
 Checkoff from Benshoof	+ Mr. Benshoof got to see your calculator work successfully!	N/A	N/A

