Program 1:

Sample I/O:

Scenario 1:

Would you like to compute your current average and grade or determine what you need to score   
on the final exam? Enter 1 for the current average or 2 for the final exam score needed: 1 [Enter]

How many quizzes have you completed? 5 [Enter]  
Please enter your score for Quiz 1: 4 [Enter]  
Please enter your score for Quiz 2: 8 [Enter]  
Please enter your score for Quiz 3: 9 [Enter]  
Please enter your score for Quiz 4: 6 [Enter]  
Please enter your score for Quiz 5: 8 [Enter]  
  
How many homeworks have you completed? 6 [Enter]  
Please enter your score for Homework 1: 6 [Enter]  
Please enter your score for Homework 2: 9 [Enter]  
Please enter your score for Homework 3: 9 [Enter]  
Please enter your score for Homework 4: 7 [Enter]  
Please enter your score for Homework 5: 8 [Enter]  
Please enter your score for Homework 6: 9 [Enter]  
  
How many tests have you completed? 3 [Enter]   
Please enter your score for Test 1: 98 [Enter]  
Please enter your score for Test 2: 79 [Enter]  
Please enter your score for Test 3: 86 [Enter]  
  
How many projects have you completed? 3 [Enter]   
Please enter your score for Project 1: 21 [Enter]  
Please enter your score for Project 2: 24 [Enter]  
Please enter your score for Project 3: 25 [Enter]  
   
Your current average is 82.52 and your current grade is a B

Scenario 2:

Would you like to compute your current average and grade or determine what you need to score   
on the final exam? Enter 1 for the current average or 2 for the final exam score needed: 2 [Enter]

Please enter the grade you wish to earn for the class: A [Enter]  
  
Please enter your quiz average: 82 [Enter]  
  
Please enter your homework average: 90 [Enter]  
  
Please enter your test average: 78 [Enter]  
  
Please enter your project average: 85 [Enter]   
  
You can’t earn an A in this class.

Scenario 2 (alternate result):

Would you like to compute your current average and grade or determine what you need to score   
on the final exam? Enter 1 for the current average or 2 for the final exam score needed: 2 [Enter]

Please enter the grade you wish to earn for the class: A [Enter]  
  
Please enter your quiz average: 88 [Enter]  
  
Please enter your homework average: 86 [Enter]  
  
Please enter your test average: 90 [Enter]  
  
Please enter your project average: 93 [Enter]   
  
You need to score at least a 93.5% on your final exam to earn an A.

Variable list

* Input variables
  + int option – integer data type variable used to indicate the option chosen by the student to either calculate their current average or find what they need in their final exam
  + float quizAvg, float homeAvg, float testAvg, float projectAvg -- float data variables to store the average grade for each type of assignment used (could also be classified as other variable as the value for it is a calculation based on input values in scenario 1; could be an int data type in scenario 2)
  + int quizComplete, int homeComplete, int testComplete, int projComplete – integer data type variables used to store how many of each type assignment were completed by the student
  + int quizScore, int homeScore, int testScore, int projScore – integer data type variables used to score each individual score from each assignment type to be used in scenario 1
  + char desiredGrade – character data type for the user to enter in scenario 2 which represents the grade they wish to get before finding out what they need on the final for that grade
* Output variables
  + float classAvg – float data type that stores the overall grade in the class so far
  + float finalExam – float data type variable to store the calculation of what is needed for the student to get on the final exam for their desired test grade.
* Other variables
  + float quizWeight, float homeWeight, float testWeight, float projWeight – float data type variables that store the weight for each assignment type which will be used in both scenarios of the program. (Their values are different within each scenario loop)