All students are familiar with grading scales and most colleges use a 10 point grading scale as follows:

90-100: A

80-89: B

70-79: C

60-69: D

0-59:F

We are going to code a Python script that asks the student to enter as many scores as they like to display a corresponding letter grade and calculate an average. We are assuming that all scores are equally weighed in determining the average. Based on the average, we will determine the final letter grade according to the 10 point scale.

Your program should begin by asking the student to enter the quantity (meaning how many) scores that they plan to average. Validate the quantity of grades to ensure that it is at least 0. The quantity of grades will be used within a loop to control the program in terms of how many grades are processed. You will ask the student to input the assignment description (test, quiz, whatever), and the score (score) received for the assignment. Validate the score received to make sure that it is at least 0 but no more than 100.

For each grade entered, you display a small report containing the assignment description, the score received, and its letter grade. This will require a decision structure to determine the letter grade.

In addition, you will need to sum all of the scores entered and divide them by the quantity of scores entered to get the average. Then, determine the letter grade for the average. Finally, print the average followed by its letter grade. Be mindful that if the user enters 0 grades at the beginning of the program, you will get a run time error when the sum of the scores is divided by the quantity of the scores. To prevent that from happening, use a decision structure to place an if statement before calculating the average to make sure that you only calculate the average when you have at least 1 score. The decision structure for determining the final letter grade for the average needs to be within the if structure that determines if you have at least 1 score as well.

Be sure to print a statement at the end that says *Thanks for using our program.*

*To make sure that you understand the requirements, the section in green below shows how the program should run including test data that appears in red. Remember that your program should run for any assignment\_description correctly and not just the assignments listed below. That means if you are stating something like if assignment\_description == “Test 1”, you are not determining the letter grade correctly. It isn’t the assignment description that determines the letter grade, it is the score that determines the letter grade within the range given.*

**This program helps you to determine letter grades for scores entered by the user. It also calculates an average for all grades entered and displays its corresponding letter grade and all details.**

**How many grades do you want to average?**

**-1**

**Invalid. You must enter a value >= 0.**

**-2**

**Invalid. You must enter a value >= 0.**

**5**

**Please enter the assignment description (ex. Test1, Quiz2):**

**Test1**

**Please enter the score for Test1**

**90**

**Assignment Description Test1**

**Score 90.00**

**Letter Grade A**

**Please enter the assignment description (ex. Test1, Quiz2):**

**Test2**

**Please enter the score for Test2**

**-1**

**Invalid score. Please enter a value between 0 and 100:**

**101**

**Invalid score. Please enter a value between 0 and 100:**

**80**

**Assignment Description Test2**

**Score 80.00**

**Letter Grade B**

**Please enter the assignment description (ex. Test1, Quiz2):**

**Test3**

**Please enter the score for Test3**

**70**

**Assignment Description Test3**

**Score 70.00**

**Letter Grade C**

**Please enter the assignment description (ex. Test1, Quiz2):**

**Test4**

**Please enter the score for Test4**

**60**

**Assignment Description Test4**

**Score 60.00**

**Letter Grade D**

**Please enter the assignment description (ex. Test1, Quiz2):**

**Test5**

**Please enter the score for Test5**

**50**

**Assignment Description Test5**

**Score 50.00**

**Letter Grade F**

**Average for all scores entered**

**Final Average 70.00**

**Final Letter Grade C**

Submit the letter\_grades.py file in Canvas when complete.