**Requirements for Task 2 Project 1**

**Identify all information required for grade calculation:**

1. **Input from user?**

The user has to make titles for each of the columns: Projects, Attendance, Lab, Code Review, and Reading Assignment along with titles for rows: Average, Points Possible, Percentage Grade, and Weighted Average of the excel spreadsheet. The user has to input points he/she received for each column. While the user is inputting points he/she received for each column along with some decisions have to be made for each column. We have to make decisions for each column such as if we did not submit an assignment, partially submit, submit with errors, submit complete without errors, or tardy/leave class early. Most of the deductions are between 0, 1, 2, 3 point scale off if we did not follow through on our class work. The user must input Points Possible row for each the columns, which will help with the internal input inside the excel program. Lastly, we must input the Percentage Grade row to break up what each column section is worth from 100%. The other input from the user could be the Python template to execute functions.

1. **Internal contained in program?**

After the user has gone through input the points in each of the columns: Projects, Attendance, Lab, Code Review, and Reading Assignment we fill out computations for the rows: Average, Percentage Grade, and Weighted Average of each column. Most of the internal input contained in the Excel program are computations. We will tell the computer to use a SUM function (which is built internally inside Excel) and divided by the number of points we have filled out for each column to fill the Average row. The user will tell the computer for the Weighted Average row to multiply The Average row by Percentage Grade. The multiplication formula is built into the Excel program.

1. **Describe computation required?**

The computations that were required SUM function, Division, and Multiplication. The SUM Function adds up the total of points we have so far for the class and Divison would help get the Average Row filled in. Multiplication was used for the Weighted Average row to get a true average grade of the class of what anyone else or I would have for the class up to this point in the semester.

1. **Break up into smallest possible computational tasks (simplify)?**

I used simple addition to all up all the points I have up to this point in the class and divided by the number of class work we have done for each of the columns: Projects, Attendance, Labs, Code Review, and Reading Assignments to get the Average row. For example we have 5 projects in the course and I added all my points from the Projects column and then divided by 5 (the number of total projects we have done) to get an average for Average row. Lastly, I multiplied the Average row for each column by Percentage Grade row for each column to get the Weighted Average row to get my final results.