Software Required

1. Python: The data processing language used here
   https://www.python.org/downloads/

2. Anacondas: Has all the required Python libraries in its environment.
   https://www.continuum.io/downloads

3. Visual Studio Code: Better UI for editing and debugging the code
   https://www.visualstudio.com/downloads/

Installation

1. Download the .exe files of the all the 3 above mentioned software. One can use any version of the software that's compatible with his OS.

2. Make sure that all the software is installed in the same directory. By default, all the software is installed in the same directory.

3. Follow the steps mentioned in the webpage below to integrate all 3 software environments into 1
   https://docs.continuum.io/anaconda/ide_integration
   The setup information is under: Python for Visual Studio Code

Steps before running the code

1. Make sure that both your data file as well as your python code is in Python's working directory.

   The following commands can be used:
   - To check which folder location is the current working directory

     import os
     os.getcwd()

- To change your working directory to a desired file location

  import os
  os.chdir('path of the file location')

Code explanation

The name of the python code file and an explanation about what are the functions performed by the code is stated below:

1. Split_Simple.py
   - This code simply splits your master excel sheet into no of different excel sheets.
   - The split is performed based on the column name a user specifies in the code.
   - The structure of the input and the output files are the same.

INPUT FILE:

Student ID	Department	Assignment 1	Assignment 2	Total
1	CS	10	10	20
2	ischool	6	8	14
3	CS	7	4	11
4	CS	5	8	13
5	Ischool	5	9	14

OUTPUT FILES:

Student ID	Department	Assignment 1	Assignment 2	Total
1	CS	10	10	20
3	CS	7	4	11
4	CS	5	8	13

Student ID	Department	Assignment 1	Assignment 2	Total
2	ischool	6	8	14
5	Ischool	5	9	14

2. Split_add_rows
    - This code splits your master excel sheet into different excel sheets.
    - The split is performed based on the column name a user specifies in the code.
    - Additional rows can be added to the output files e.g.:

INPUT FILE:

Student ID	Department	Assignment 1	Assignment 2	Total
1	CS	10	10	20
2	ischool	6	8	14
3	CS	7	4	11
4	CS	5	8	13
5	Ischool	5	9	14

OUTPUT FILE:

Student ID	Department	Assignment 1	Assignment 2	Total
Points Possible		**10**	**10**	**20**
1	CS	10	10	20
3	CS	7	4	11
4	CS	5	8	13

Student ID	Department	Assignment 1	Assignment 2	Total
Points Possible		**10**	**10**	**20**
2	ischool	6	8	14
5	Ischool	5	9	14

3. Split_average
    - This code splits your master excel sheet into different excel sheets.
    - The split is performed based on the column name a user specifies in the code.
    - Additional rows can be added to the output files
    - Averages for desired columns can be calculated and added to the end of the file

INPUT FILE:

Student ID	Department	Assignment 1	Assignment 2	Total
1	CS	10	10	20
2	ischool	6	8	14
3	CS	7	4	11
4	CS	5	8	13
5	Ischool	5	9	14

OUTPUT FILE:

Student ID	Department	Assignment 1	Assignment 2	Total
Points Possible		**10**	**10**	**20**
1	CS	10	10	20
3	CS	7	4	11
4	CS	5	8	13
Average		**7.33**	**7.33**	**14.67**

Student ID	Department	Assignment 1	Assignment 2	Total
Points Possible		**10**	**10**	**20**
2	ischool	6	8	14
5	Ischool	5	9	14
Average		**5.50**	**8.50**	**14.00**

4. Split_Eligibilty_count
    - This code splits your master excel sheet into different excel sheets.
    - The split is performed based on the column name a user specifies in the code.
    - Additional rows can be added to the output files
    - Additional Data based obtained by operations on Text Columns can be added to the end of each file

INPUT:

Student ID	Department	Assignment 1	Assignment 2	Total	Eligibility Status
1	CS	10	10	20	Eligible
2	ischool	6	8	14	Eligible
3	CS	7	4	11	Not Eligible
4	CS	5	8	13	Not Eligible
5	Ischool	5	9	14	Eligible

OUTPUT:

Student ID	Department	Assignment 1	Assignment 2	Total	Eligibility Status
1	CS	10	10	20	Eligible
3	CS	7	4	11	Not Eligible
4	CS	5	8	13	Not Eligible
Eligibility count:		**1**			

Student ID	Department	Assignment 1	Assignment 2	Total	Eligibility Status
2	ischool	6	8	14	Eligible
5	Ischool	5	9	14	Eligible
Eligibility count:		**2**			

5. Teachers_report
    - This code calculates the performance metric such as Average and Submission Rate for each class and computes the deviation of the class average with the overall average.

INPUT:

Student ID	Teacher ID	Assignment 1	Assignment 2	Total
1	T103	10	10	20
2	T102	0	0	0
3	T103	0	0	0
4	T101	5	8	13
5	T101	0	0	0
6	T101	6	7	13
7	T102	8	8	16
8	T102	4	4	8
9	T102	9	9	18
10	T101	3	6	9

OUTPUT:

Teacher ID	Average	Submission Rate	Deviation from mean
T103	20	50%	6.15
T102	14	75%	0.15
T101	11.66	75%	2.19

Python Tutorials

https://www.coursera.org/learn/python-data-analysis

This free course under Coursera covers all the concepts used in the above code like Pandas dataframe, numpy library, Reading and Writing from CSV etc.