Development Document

Introduction

The GitHub link to the code is:

<https://github.com/khurram-a/Python_Project_250509>

Solution Design

Reflective Evaluation

Appendix

#---------------------------------------------------------------------------------

#------Name : Process\_Data\_Main.py

#------Created  : 30/04/2025 - Khurram Asif

#------Modified :

#------Description : Python Main program file to process data from an input file,

#------carry out 2 calculations and output into a new file

#---------------------------------------------------------------------------------

# import the user defined functions

import Calculation\_Functions

# import the python built-in csv module

import csv

# initializing the students list

students = []

try:

        # reading csv file

        with open('Students.csv', 'r') as file:

                        # creating a csv reader object

                        reader = csv.reader(file)

                        # Read the header (first row)

                        header = next(reader)

                        # extracting field names through first row

                        for row in reader:

                                #data elements extracted from the row

                                name, math, science, english = row

                                #calculate the average score

                                average = Calculation\_Functions.calculate\_average([int(math), int(science), int(english)])

                                #assign the grade

                                grade = Calculation\_Functions.assign\_grade(average)

                                #append the data into the list

                                students.append([name, math, science, english, average, grade])

except FileNotFoundError:

 #       # Handle case when the file is not found

        print(f"Error: Students.csv not found.")

#write the data into a new file

with open('Student\_Results.csv', 'w', newline='') as file:

        writer = csv.writer(file)

        writer.writerow(['Name', 'Math', 'Science', 'English', 'Average', 'Grade'])

        writer.writerows(students)

print('Results saved to student\_results.csv')