**Technical Design Document Template**

**Name:** Tyler Vo

**Date Created:** 11/3/2024

**Program Description:**

* allows an instructor to enter student grades and store them in a CSV file, then read the CSV file and display the grades.

**Functions used in the Program (list in order as they are called):**

1. **Function Name:** write\_student\_exam

* **Description:** collects student data from the user and stores it in grades.csv. It writes the student names and three exam grades as rows in the CSV file.
* **Parameters:** None
* **Variables:**

1. num\_students – Stores the number of students to be entered, input by the user.
2. file – Represents the opened file where data will be written.
3. writer – CSV writer object used to write data to the file.
4. first\_name – Stores the first name of the student.
5. last\_name – Stores the last name of the student.
6. exam1, exam2, exam3 – Stores the grades for the three exams.

* **Logical Steps:**

1. Prompt the user to enter the number of students.
2. Open the grades.csv file in write mode.
3. Write the header row with column names.
4. Loop through the number of students
5. Prompt the user to enter the student’s name and grades.
6. Write the entered data as a new row in the CSV file.
7. Display a message confirming that the data was saved successfully.

* **Returns:** None

2. **Function Name:** read\_student\_exam

**Description:** reads the student data from grades.csv and displays the information.

**Parameters:** None

**Variables:**

1. file– Represents the opened file for reading.
2. reader– CSV reader object used to read the data from the file.
3. row– A row of student data read from the CSV file.

**Logical Steps:**

1. Try to open grades.csv in read mode.
2. Create a CSV reader object to read the data.
3. Display the table header.
4. Loop through each row in the CSV:
5. Print the row data in a formatted manner.
6. If the file does not exist, display an error message.

**Returns:** None

2. **Function Name:** main

**Description:** provides a menu for the user to interact with the program.

**Parameters:** None

**Variables:**

1. choice – Stores the user’s menu selection.

**Logical Steps:**

1. Enter a loop that displays the menu options.
2. Prompt the user to select an option.
3. If the input is invalid, display an error message.

**Returns:** None

**Logical Steps:**

1. If the user selects 1, the write\_student\_exam function is called to input and store grades.
2. If the user selects 2, the read\_student\_exam function is called to display the stored grades from the csv.
3. If the user selects 3, the program exits.
4. If the user enters an invalid option, the menu is displayed again.

**Link to your repository:** https://github.com/AsianInvasion00/COP2373