**Name:** Brayden Fox

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**Program Description:**

This program reads the file “grades.csv” created by the earlier program and displays the output in a tabulated format.

# Functions

1. **Function Name:** `main()`

**Description:** runs the main program

**Parameters:** none

**Variables:**

1. `file\_name`: stores the file path to the CSV file.
2. `csvfile`: stores the `TextIO` object retrieved by `open()`
3. `reader`: stores the return of the `csv.DictReader()` method
4. `field\_names`: stores the list of field names associated with the CSV column values.
5. `rows`: stores each row of data gathered from the CSV file.
6. `field\_name`: looping/working variable storing the current field name.
7. `col\_widths`: stores the integer number of characters wide each column are/will be in the output table.

**Logical Steps:**

1. The constant `file\_name` is initialized.
2. A context manager is used to manage the file opening/closing. The CSV file is opened and read using the appropriate methods from the Python `csv` module.
3. The field names are used as the column headers in the output table (and so participate in the width in chars of the column) and are added to the rows gathered from the CSV file.
4. The maximum width of each column is determined and stored in `col\_widths`.
5. The first row of the table is printed using the `fmt\_row()` function, followed by a horizonmtal separator.
6. The rest of the rows are printed, again with the `fmt\_row()` function.
7. The function returns.

**Returns:** none.

1. **Function Name:** `fmt\_row()`

**Description:** returns a string-formatted row of data

**Parameters:** `row`, a slice of the CSV data gathered from the `csv` module method.

**Variables:** none.

**Logical Steps:**

* 1. A tuple comprehension is passed to the `join()` string method, which concatenates the passed contents with a vertical separator.
     1. The tuple comprehension used string formatting and the column widths computed earlier to give each row item the appropriate right-ward whitespace.

**Returns:** string of formatted row data.

# Logical Steps

1. The `csv` module is imported
2. The if block which calls the main function is entered.
3. The main function is called, and when completed the program terminates.

# Repository

<https://github.com/fox-2-4/COP2373>

# Screenshots

**Data output:**

A screenshot of a computer

AI-generated content may be incorrect.