**File Processor**

**1. Objective:** The File Processor is designed to read data from multiple .dat files located in a specified input folder, process the data, and generate a consolidated CSV output file. Additionally, it calculates and appends the second highest salary and average salary.

**2. Processing Steps:**

* Check if the input folder exists. If not, raise a FileNotFoundError.
* Create the output folder if it doesn't exist.
* Iterate through each file in the input folder.
* Read each .dat file as a DataFrame using pandas, assuming tab-separated values.
* Concatenate all DataFrames into a single DataFrame.
* Calculate the gross salary by adding the basic salary and allowances.
* Remove duplicate entries based on the 'id' column to keep only the first occurrence of each ID.
* Write the processed data to a CSV file in the output folder.
* Calculate the second highest salary and average salary.
* Append the calculated values as a footer in the output CSV file.

**3. Error Handling:**

* If the input folder does not exist, raise a FileNotFoundError.
* If no .dat files are found in the input folder, raise a FileNotFoundError.
* If any file other than .dat files is found in the input folder, raise a FileNotFoundError.

**4. Assumptions:**

* The data in .dat files is tab-separated.
* The input folder may contain other files, but only .dat files will be processed.
* The id column contains duplicate ids but with different subsequent data. So considered first occurrence.