Contact Sorter Program Documentation  
GPT convo link : <https://chat.openai.com/share/da35de82-4e61-4177-bcc5-bde48ffa0b1b>

# 1. Overview of the Program

The Contact Sorter program is designed to read contact data from various file formats, categorize each contact based on its attributes, sort the categorized contacts, and then write the sorted contacts to a master Excel sheet. The categorization is achieved with the help of the GPT-4 model.

# 2. Data Structures: Contact and CategorizedContact

The program utilizes two main data structures: `Contact` and `CategorizedContact`.  
 - `Contact`: Represents the original data/content from each contact's row. It can hold arbitrary attributes and is flexible in its structure.  
 - `CategorizedContact`: Wraps around a `Contact` object and includes categorized attributes like `industry`, `organization`, and `seniority`. It's used for sorting and organizing the contacts.

# 3. OpenAICaller: Interacting with GPT for Categorization

The `OpenAICaller` class is responsible for interacting with the GPT model to categorize contacts. The `categorize\_contact` method takes a `Contact` object, passes its content to the GPT model, and retrieves categorized attributes. The method then returns a `CategorizedContact` object.

# 4. DataProcessor: Categorization and Sorting

The `DataProcessor` class handles the categorization and sorting of contacts.  
 - `categorize\_contacts`: Accepts a list of `Contact` objects, categorizes each contact using the `OpenAICaller.categorize\_contact` method, and returns a list of `CategorizedContact` objects.  
 - `sort\_contacts`: Sorts the `CategorizedContact` objects based on their `industry`, `organization`, and `seniority` attributes.

# 5. FileHandler: Reading from and Writing to Files

The `FileHandler` class manages file operations.  
 - `read\_files`: Reads each file in a directory and returns a list of `Contact` objects.  
 - `write\_to\_excel`: Takes a list of `CategorizedContact` objects, organizes them based on their `industry` attribute, and writes the sorted data to an Excel file.

# 6. Data Flow Overview

The program follows these steps:  
1. `FileHandler.read\_files` reads contacts from files and returns a list of `Contact` objects.  
2. `DataProcessor.categorize\_contacts` categorizes each contact and returns a list of `CategorizedContact` objects.  
3. `DataProcessor.sort\_contacts` sorts the `CategorizedContact` objects.  
4. `FileHandler.write\_to\_excel` writes the sorted contacts to the master Excel sheet.