#firestore.py

**Purpose:**

To provide a detailed understanding of the firestore.py file in KeeperAI’s recommendation engine. This Python script is responsible for connecting the IDE to Firebase to retrieve user information.

**Introduction:**

This Python script connects the Firebase Firestore database, retrieves information about user profiles, and calculates fiveFactorScores related to the affinity groups and personality factors. Below is a breakdown of what the code does.

1. Importing Python library Pandas along with Firebase admin, credentials,firestore and FieldFilter from google cloud Firestore.
2. **Initializing Firebase Connection**

* Initializes the connection to Firebase using a service account key (keeper-hr-test-key.json).
* Sets up the Firestore client (database).

1. **Affinity Groups Collection**

* Retrieves all documents from the AffinityGroups collection.
* Stores the IDs of these groups in a list (groups) and writes them to a file (groups.txt).
* Calculates a fivefactorscores for each group (group\_score), based on the maximum score (MAX\_SCORE = 5).

1. **User Data Retrieval**

* Queries the users collection to fetch documents where the field profiles.default.isComplete is set to True. This is to check to see if a user profile has been created on the website and to verify the user.
* Iterates over the user documents and filters out those with incomplete fiveFactorsScores.
* Stores the relevant user data in a list (user\_list).

1. **DataFrame Preparation**

* Creates a pandas DataFrame (user\_df) to store user data. The columns include:
* Common columns: doc\_id, fullName, company\_id, Cooperativeness, Creativity, Persistence, Sociability, and Steadiness.
* Columns for each affinity group (groups).
* Filters out any users without a valid affinity group.

1. **Populating DataFrame**

* Loops through the filtered user list and populates the DataFrame:
* Sets the affinity group columns to group\_score for each user based on their affinity group membership.
* Fills in common columns with data like doc\_id, fullName, company\_id, and fiveFactorsScores (personality factors).
* Filters out any users without a valid affinity group.

1. **Export to CSV**

* Writes the resulting DataFrame (user\_df) to a CSV file (firestore\_users.csv).

**Summary:**

This code connects to Firestore, retrieves and processes data about affinity groups and user profiles, assigns scores based on group membership, and personality factors, and exports the structured data into a CSV file. The script efficiently manages missing data and handles errors during the data retrieval and processing stages.