

1. Configuration and Setup:
 - The script starts by importing necessary libraries, such as JSON for JSON file handling and GoogleMaps for geocoding services.
 - It defines some initial data, including serviceType (types of services), emailDomains (available email domains), and empty dictionaries for tradieProfiles, clientProfiles, serviceRequests, and taskDescriptions.
2. Loading Configuration:
 - The script reads a JSON configuration file (config.json) that contains an API key for the Google Maps Geocoding API. The API key is stored in the googlemaps_api_key variable.
3. Generating Tradie Profiles:
 - The generateTradies() function generates simulated tradie profiles.
 - It defines a list of tradie names and randomly generates phone numbers for each tradie.
 - It loops 20 times to create 20 tradie profiles.
 - For each iteration, it generates a random address within a specified latitude and longitude range.
 - It creates a new tradie dictionary with various details like ID, name, phone number, email, service type, address, job history, and wallet balance.
 - It appends the new tradie dictionary to the tradieProfiles list.
 - Finally, it randomly assigns service requests to some tradies by adding the request to their activeJobs list.
4. Generating Client Profiles:
 - The generateClients() function generates simulated client profiles.
 - It defines a list of client names and randomly generates phone numbers for each client.
 - It loops 50 times to create 50 client profiles.
 - For each iteration, it generates a random address within a specified latitude and longitude range.
 - It creates a new client dictionary with various details like ID, name, phone number, email, address, job history, and wallet balance.
 - It appends the new client dictionary to the clientProfiles list.
 - Finally, it randomly assigns service requests to some clients by adding the request to their activeJobs list and updates the address of the service request with the client's address.

5. Generating Service Requests:

- The generateServiceRequests() function generates simulated service requests.
- It defines a list of tasks for each service type (e.g., electrical, plumbing) and assigns a random cost to each task.
- It loops 100 times to create 100 service request entries.
- For each iteration, it generates a random address within a specified latitude and longitude range.
- It creates a new service request dictionary with details such as ID, service type, job description, address, and quoted cost.
- It randomly assigns a task description from the predefined tasks list to each service request and updates the respective task description list for the service type.
- It appends the new service request dictionary to the serviceRequests list.
- Finally, it saves the generated service requests and task descriptions in separate JSON files.

6. Execution:

- The script calls the generateServiceRequests(), generateClients(), and generateTradies() functions in sequence to generate the required data.
- The execution order is important to ensure that the service requests are assigned to the clients and tradies appropriately.

The generated data is saved in JSON files (tradieProfiles.json, clientProfiles.json, serviceRequests.json, serviceTypes.json), which can be used as input for further processing or simulation.