Generate, Merge and Import Data Using Python

Your team will be using Python for application development and testing. Using code to generate datasets for tables will allow you to test the functionality of your application without using the private information of real customers. You will create your datasets, table data and front-end web application using Python.

1. Create a script that generates sample data for two test tables: Customers and Orders.
    - The Customers table will have at least 100 records with the following columns: CustomerID, CustomerName, FirstName, LastName, Email, City, State & ZipCode.
    - The Orders table will have at least 10,000 records with the following columns: OrderID, CustomerID, OrderDate, ShippedDate.
    - Save the records generated to CSV files for both tables (customers.csv and orders.csv).

2. Merge the records into a single table using the common CustomerID column. Save the records to a file called merge.csv.

3. Import the csv files into the database for your project using the CSV file names as the table names. Query all three tables in the database, continuing to use Python for all your operations.

4. Create a simple Python web application that displays the information in your “Customers” table. Verify that the application is accessible over the network.

5. As a group, discuss and write down your answers to these questions:
    - There are many benefits to coding with Python and it works for many types of applications. Are there any use cases where you would not use Python?
    - What desktop client tools are available for real-time collaborative coding in Python?