Task 4: Data Munging

Here is your task

Part 1: Get the data

First, you need to get your hands on the relevant data. The shipping department has been kind enough to provide you with a repository containing all of their spreadsheets, as well as a copy of the sqlite database. First, fork and clone the repository at: https://github.com/theforage/forage-walmart-task-4

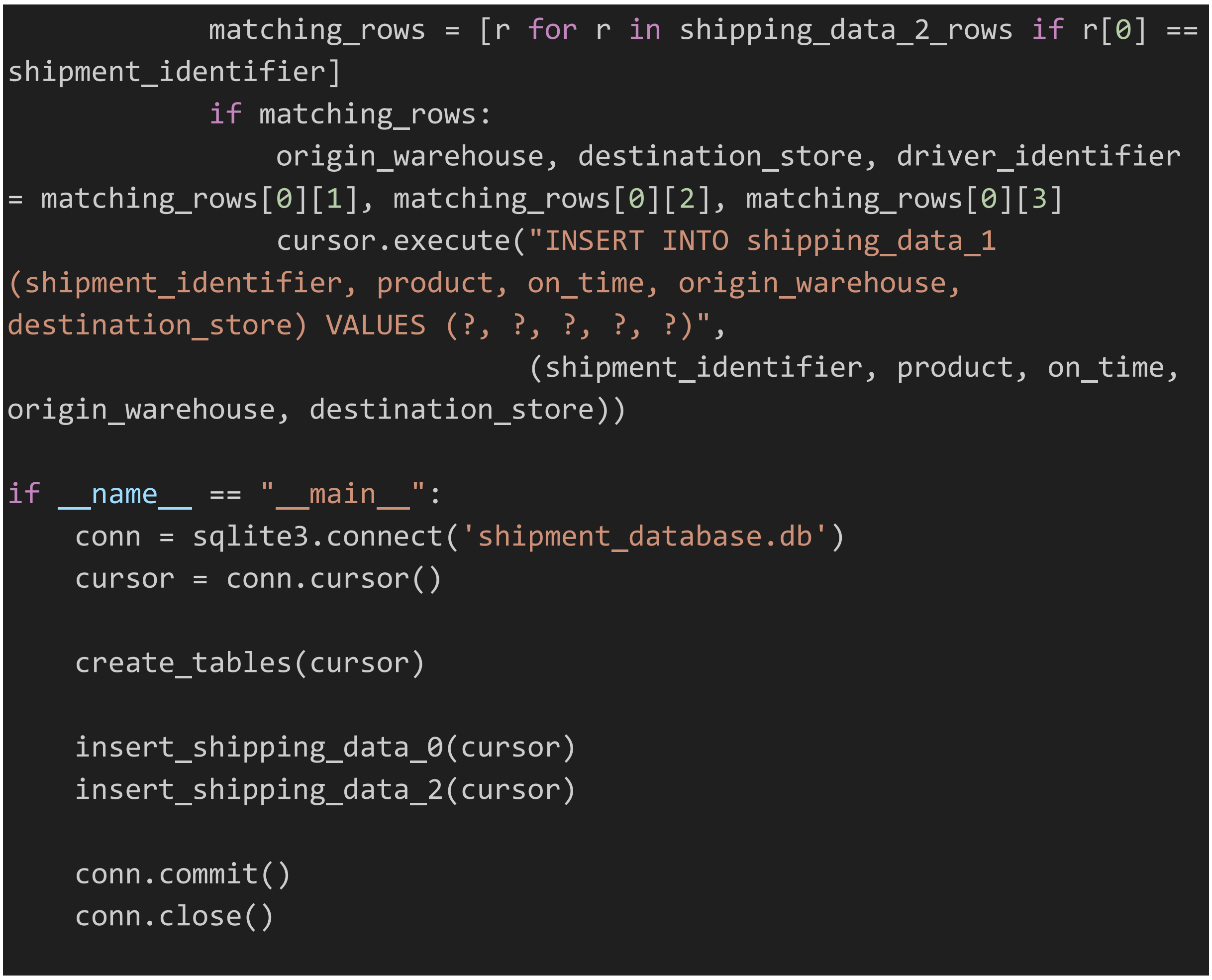
Part 2: Populate the database

Your task is to insert all of the data contained in the provided spreadsheets into the SQLite database. You will write a Python script which:

- Reads each row from the spreadsheets.
- Extracts the relevant data.
- Munges it into a format that fits the database schema.
- Inserts the data into the database.

Spreadsheet 0 is self contained and can simply be inserted into the database, but spreadsheets 1 and 2 are dependent on one another. Spreadsheet 1 contains a single product per row, you will need to combine each row based on its shipping identifier, determine the quantity of goods in the shipment, and add a new row to the database for each product in the shipment. The origin and destination for each shipment in spreadsheet 1 are contained in spreadsheet 2. You may assume that all the given data is valid - product names are always spelled the same way, quantities are positive, etc.

```
import csv
import sqlite3

def create_tables(cursor):
    cursor.execute("""
        CREATE TABLE IF NOT EXISTS shipping_data_0 (
            origin_warehouse TEXT,
            destination_store TEXT,
            product TEXT,
            on_time TEXT,
            product_quantity INTEGER,
            driver_identifier TEXT
        )
    """)

    cursor.execute("""
        CREATE TABLE IF NOT EXISTS shipping_data_1 (
            shipment_identifier TEXT,
            product TEXT,
            on_time TEXT,
            origin_warehouse TEXT,
            destination_store TEXT
        )
    """)

def insert_shipping_data_0(cursor):
    with open('data/shipping_data_0.csv', 'r') as file:
        csv_reader = csv.reader(file)
        next(csv_reader)
        for row in csv_reader:
            origin_warehouse, destination_store, product, on_time,
product_quantity, driver_identifier = row
            cursor.execute("INSERT INTO shipping_data_0
(origin_warehouse, destination_store, product, on_time,
product_quantity, driver_identifier) VALUES (?, ?, ?, ?, ?, ?)",
                           (origin_warehouse, destination_store,
product, on_time, product_quantity, driver_identifier))

def insert_shipping_data_2(cursor):
    with open('data/shipping_data_2.csv', 'r') as file:
        csv_reader = csv.reader(file)
        next(csv_reader)
        shipping_data_2_rows = [row for row in csv_reader]

    with open('data/shipping_data_1.csv', 'r') as file:
        csv_reader = csv.reader(file)
        next(csv_reader)
        for row in csv_reader:
            shipment_identifier, product, on_time = row
```



```
            matching_rows = [r for r in shipping_data_2_rows if r[0] ==
shipment_identifier]
            if matching_rows:
                origin_warehouse, destination_store, driver_identifier
= matching_rows[0][1], matching_rows[0][2], matching_rows[0][3]
                cursor.execute("INSERT INTO shipping_data_1
(shipment_identifier, product, on_time, origin_warehouse,
destination_store) VALUES (?, ?, ?, ?, ?)",
                               (shipment_identifier, product, on_time,
origin_warehouse, destination_store))

if __name__ == "__main__":
    conn = sqlite3.connect('shipment_database.db')
    cursor = conn.cursor()

    create_tables(cursor)

    insert_shipping_data_0(cursor)
    insert_shipping_data_2(cursor)

    conn.commit()
    conn.close()
```