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import csv
import sqlite3
import pandas as pd

def getDataFrame(fileData):
    with open(fileData, newline = '') as csvData:
        myData = csv.reader(csvData, delimiter=',')
        dataFrame = pd.DataFrame(myData)
        return dataFrame

connection = sqlite3.connect('/shipment_database.db')
cur = connection.cursor()

#columns origin_warehouse, destination_store, product, on_time, product_quantity, driver_identifier
dataFrame = getDataFrame('/shipping_data_0.csv')
csvData1 = getDataFrame('/shipping_data_1.csv')
csvData2 = getDataFrame('/shipping_data_2.csv')

products = dataFrame[2][1:]
cur.executemany("INSERT OR IGNORE INTO product (name) VALUES (?)", [(product,) for product in products])
connection.commit()

# Insert data into shipment table, referencing product IDs
for index, row in dataFrame.iterrows():
    if index > 0:
        product_name = row[2]
        cur.execute("SELECT id FROM product WHERE name = ?", (product_name,))
        product_id = cur.fetchone()
        if product_id:
            product_id = product_id[0]
            try:
                cur.execute("""
                    INSERT INTO shipment (product_id, quantity, origin, destination)
                    VALUES (?, ?, ?, ?)
                    """, (product_id, row[4], row[0], row[1]))
            except Exception as e:
                print(f"Error inserting row {index}: {e}")
        else:
            print(f"Product '{product_name}' not found in product table")
connection.commit()

shipment_id = {}
shippings = {}

for index,row in csvData1.iterrows():
    if index > 0:
        product_name = row[1]

        if row[0] in shipment_id:
            if product_name in shipment_id[row[0]]:
                shipment_id[row[0]][product_name] += 1
            else:
                shipment_id[row[0]][product_name] = 1
        else:
            shipment_id[row[0]] = {product_name: 1}

        cur.execute("INSERT OR IGNORE INTO product (name) VALUES (?)", (product_name,))

connection.commit()

for index,row in csvData2.iterrows():
    if index > 0:
        ship_id = row[0]
        if ship_id in shippings:
            print("shipping id already exists")
        else:
            shippings[ship_id] = [row[1],row[2]]

#TODO package dictionaries and send to database
for shippingId,products in shipment_id.items():
    for product,quantity in products.items():
        cur.execute("SELECT id FROM product WHERE name = ?", (product,))
        product_id = cur.fetchone()

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if product_id:
    product_id = product_id[0]
    try:
        cur.execute("""
            INSERT INTO shipment (product_id, quantity, origin, destination)
            VALUES (?, ?, ?, ?)
            """, (product_id, quantity, shippings[shippingId][0], shippings[shippingId][1],))
    except Exception as e:
        print(f"Error inserting shipping Id {shippingId} for {product} quantity : {quantity}: {e}")
else:
    print(f"Product '{product_name}' not found in product table")

connection.commit()

cur.execute("SELECT * FROM shipment")
rows = cur.fetchall()
for row in rows:
    print(row)

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