Experiment No. 8
Program to demonstrate CRUD (create, read, update and delete) operations on database (SQLite/ MySQL) using python
Date of Performance:
Date of Submission:

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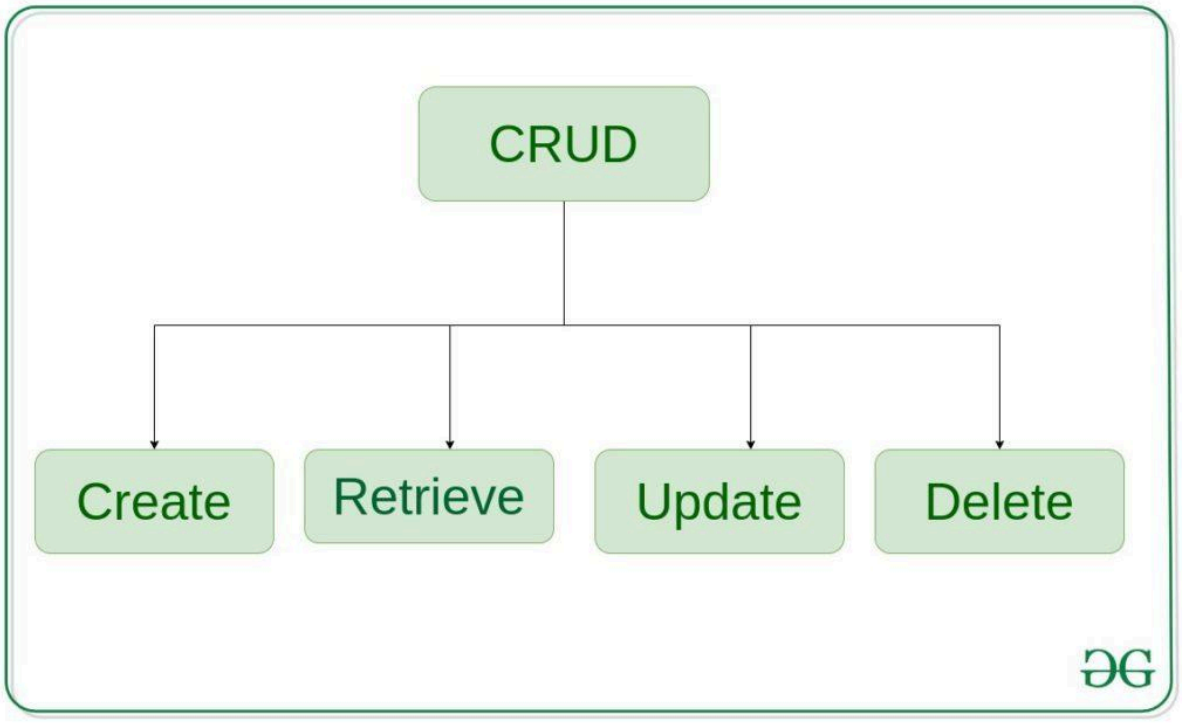
Title: Program to demonstrate CRUD (create, read, update and delete) operations on database (SQLite/ MySQL) using python

Aim: To study and implement CRUD (create, read, update and delete) operations on database (SQLite/ MySQL) using python

Objective: To introduce database connectivity with python

Theory:

In general CRUD means performing Create, Retrieve, Update and Delete operations on a table in a database. Let's discuss what actually CRUD means,



Create – create or add new entries in a table in the database.
Retrieve – read, retrieve, search, or view existing entries as a list(List View) or retrieve a particular entry in detail (Detail View)
Update – update or edit existing entries in a table in the database
Delete – delete, deactivate, or remove existing entries in a table in the database

Code:

```
import sqlite3

def create_table():
    conn = sqlite3.connect('example.db')
    c = conn.cursor()
    c.execute('''CREATE TABLE IF NOT EXISTS users
                 (id INTEGER PRIMARY KEY, name TEXT, email TEXT)''')
    conn.commit()
    conn.close()
```

```
def insert_data(name, email):
    conn = sqlite3.connect('example.db')
    c = conn.cursor()
    c.execute("INSERT INTO users (name, email) VALUES (?, ?)", (name, email))
    conn.commit()
    conn.close()

def get_data():
    conn = sqlite3.connect('example.db')
    c = conn.cursor()
    c.execute("SELECT * FROM users")
    rows = c.fetchall()
    conn.close()
    return rows

def update_data(id, name, email):
    conn = sqlite3.connect('example.db')
    c = conn.cursor()
    c.execute("UPDATE users SET name = ?, email = ? WHERE id = ?", (name, email, id))
    conn.commit()
    conn.close()

def delete_data(id):
```

```
    conn = sqlite3.connect('example.db')
    c = conn.cursor()
    c.execute("DELETE FROM users WHERE id = ?", (id,))
    conn.commit()
    conn.close()

if __name__ == "__main__":
    create_table()

    insert_data("John Doe", "john@example.com")
    insert_data("Jane Doe", "jane@example.com")

    rows = get_data()
    print("Initial data:")
    for row in rows:
        print(row)

    update_data(1, "John Smith", "john@example.com")
    print("\nData after update:")
    rows = get_data()
    for row in rows:
        print(row)
```

```
delete_data(2)
print("\nData after deletion:")
rows = get_data()
for row in rows:
    print(row)
```

Conclusion: Database Setup: It creates a SQLite database file named example.db and a table named users. Data Manipulation: It inserts two sample records into the users table. Retrieves and prints all records. Updates the name of one record. Deletes a record. This program offers a concise demonstration of basic CRUD functionality, laying the groundwork for more advanced database applications