Experiment No. 13
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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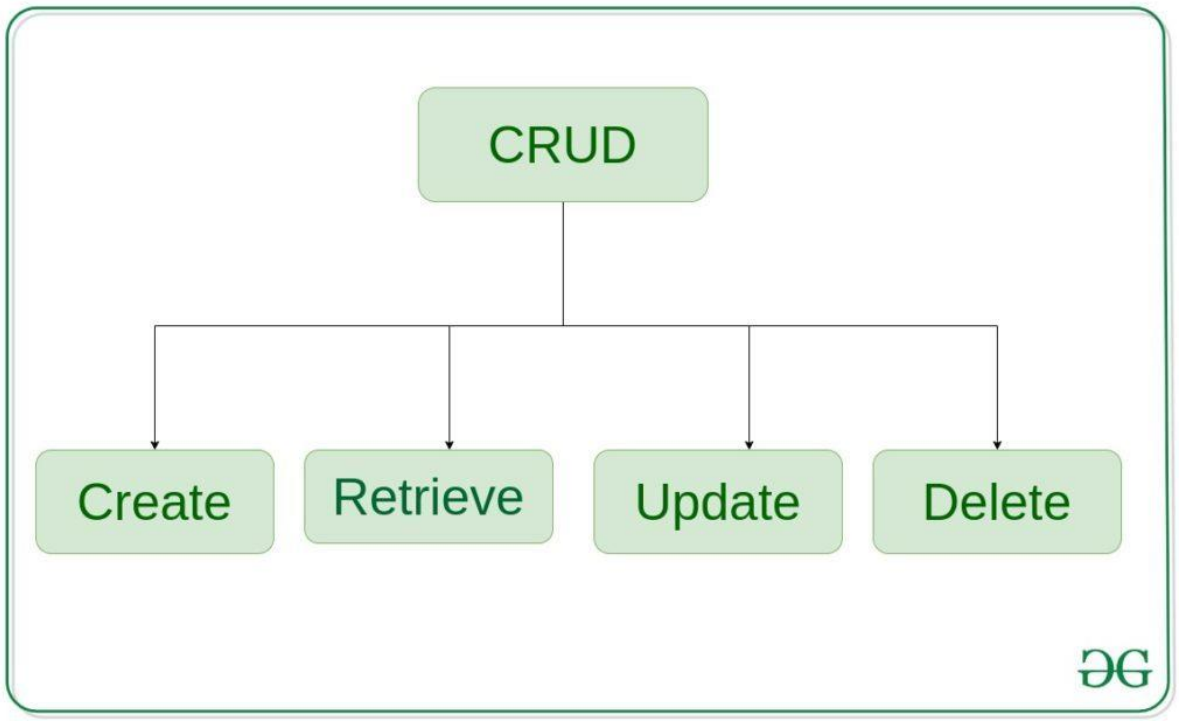
Title: Program to demonstrate CRUD (create, read, update and delete) operations on database (SQLite/ MySQL) using python

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

# Connect to SQLite database
conn = sqlite3.connect('example.db')
c = conn.cursor()

# Create table
c.execute('''CREATE TABLE IF NOT EXISTS users
             (id INTEGER PRIMARY KEY, name TEXT, age INTEGER)''')
```

```
# Create (Insert) operation
def create_user(name, age):
    c.execute("INSERT INTO users (name, age) VALUES (?, ?)", (name,
age))
    conn.commit()
    print("User created successfully")

# Read operation
def read_users():
    c.execute("SELECT * FROM users")
    rows = c.fetchall()
    for row in rows:
        print("ID:", row[0])
        print("Name:", row[1])
        print("Age:", row[2])
        print()

# Update operation
def update_user(id, new_name, new_age):
    c.execute("UPDATE users SET name = ?, age = ? WHERE id = ?",
(new_name, new_age, id))
    conn.commit()
    print("User updated successfully")

# Delete operation
def delete_user(id):
    c.execute("DELETE FROM users WHERE id = ?", (id,))
    conn.commit()
    print("User deleted successfully")

# Create some users
create_user("John", 30)
create_user("Alice", 25)

# Read all users
print("All users:")
read_users()

# Update user
update_user(1, "Johnny", 35)

# Delete user
delete_user(2)

# Read all users after operations
print("All users after operations:")
read_users()

# Close the connection
conn.close()
```

Output:

```
User updated successfully
User deleted successfully
All users after operations:
ID: 1
Name: Johnny
Age: 35

ID: 3
Name: Alice
Age: 25

PS C:\Users\Sanika>
```

Conclusion: CRUD operations has been studied and implemented.