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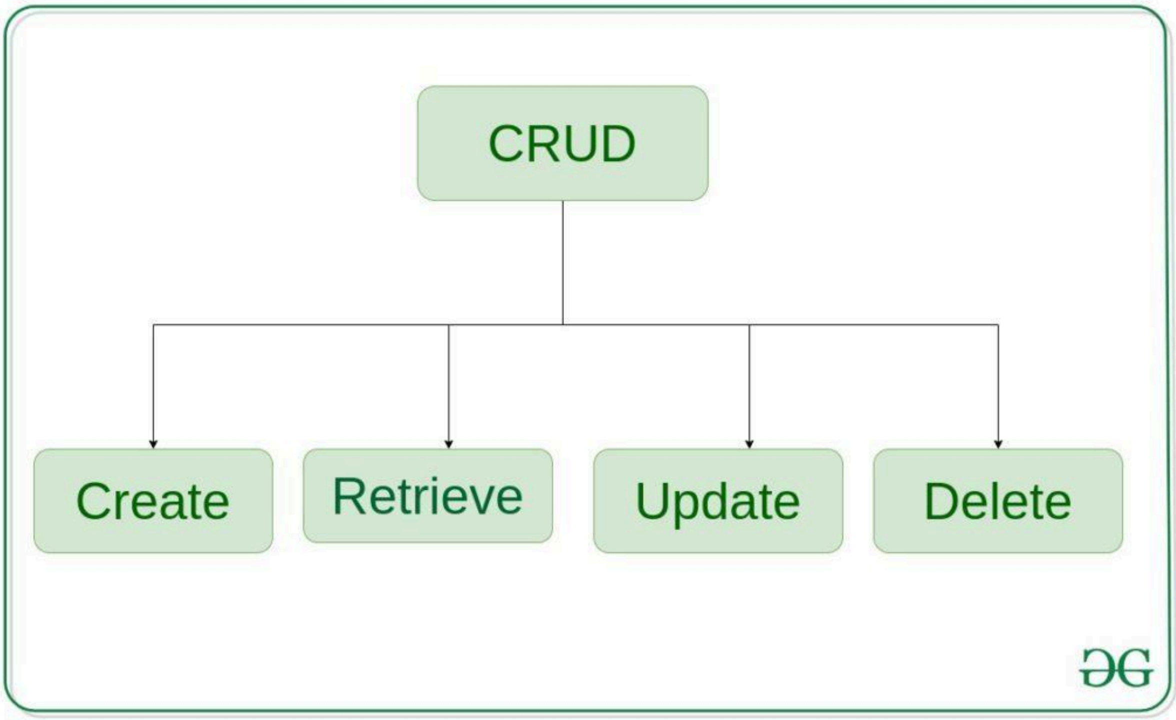
Title: Program to demonstrate CRUD (create, read, update and delete) operations on database (SQLite/ MySQL) using python

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

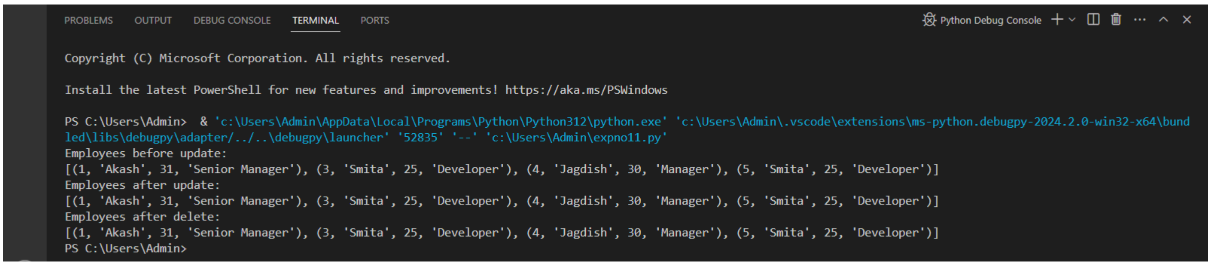
Code:

```
import sqlite3


# Create connection and cursor

conn = sqlite3.connect('example.db')

c = conn.cursor()


# Create table

c.execute('''CREATE TABLE IF NOT EXISTS employees

             (id INTEGER PRIMARY KEY, name TEXT, age INTEGER, position TEXT)''')


# Create (Insert) operation

def create_employee(name, age, position):

    c.execute("INSERT INTO employees (name, age, position) VALUES (?, ?, ?)", (name, age, position))

    conn.commit()


# Read operation

def read_employees():

    c.execute("SELECT * FROM employees")

    return c.fetchall()


# Update operation
```

```
def update_employee(id, name, age, position):
    c.execute("UPDATE employees SET name=?, age=?, position=? WHERE id=?", (name, age, position, id))
    conn.commit()


# Delete operation
def delete_employee(id):
    c.execute("DELETE FROM employees WHERE id=?", (id,))
    conn.commit()


# Example usage
create_employee('Jagdish', 30, 'Manager')
create_employee('Smita', 25, 'Developer')


print("Employees before update:")
print(read_employees())


update_employee(1, 'Akash', 31, 'Senior Manager')


print("Employees after update:")
print(read_employees())


delete_employee(2)
```

```
print("Employees after delete:")

print(read_employees())


# Close cursor and connection

c.close()

conn.close()
```

Output:



```
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PS C:\Users\Admin>  & 'c:\Users\Admin\AppData\Local\Programs\Python\Python312\python.exe' 'c:\Users\Admin\.vscode\extensions\ms-python.debugpy-2024.2.0-win32-x64\bund
led\libs\debugpy\adapter/../..\debugpy\launcher' '52835' '--' 'c:\Users\Admin\expno11.py'
Employees before update:
[(1, 'Akash', 31, 'Senior Manager'), (3, 'Smita', 25, 'Developer'), (4, 'Jagdish', 30, 'Manager'), (5, 'Smita', 25, 'Developer')]
Employees after update:
[(1, 'Akash', 31, 'Senior Manager'), (3, 'Smita', 25, 'Developer'), (4, 'Jagdish', 30, 'Manager'), (5, 'Smita', 25, 'Developer')]
Employees after delete:
[(1, 'Akash', 31, 'Senior Manager'), (3, 'Smita', 25, 'Developer'), (4, 'Jagdish', 30, 'Manager'), (5, 'Smita', 25, 'Developer')]
PS C:\Users\Admin>
```

Conclusion: CRUD operations has been studied and implemented.