

SQL basic operations

Here is a brief explanation of each SQL query:

1. **CREATE TABLE:**

This command creates a new table named Student with specified columns (ID, Name, Age, Grade, Address) but without any key constraints.

2. **INSERT (Single Record):**

Adds a single row into the Student table with values for all specified columns.

3. **INSERT (Multiple Records):**

Adds multiple rows into the Student table at once, listing the values for each row separately.

4. **SELECT (Read):**

Fetches all records from the Student table. The * wildcard selects all columns.

5. **UPDATE:**

Modifies data in existing rows of the table. For example, it updates the Grade and Age of the student with ID = 2.

6. **ALTER TABLE:**

Changes the structure of the table. In this case, it adds a new column, Email, to the Student table.

7. **DELETE:**

Removes specific rows from the table. For example, it deletes the row where ID =

8. **DROP TABLE:**

Completely removes the Student table and all of its data from the database.

Example queries:

-- 1. Create a student data table without any key constraints

```
CREATE TABLE Student (  
    ID INT,  
    Name VARCHAR(50),  
    Age INT,  
    Grade VARCHAR(10),  
    Address VARCHAR(100)  
);
```

-- 2. Insert a single record into the student table

```
INSERT INTO Student (ID, Name, Age, Grade, Address)  
VALUES (1, 'Alice', 20, 'A', '123 Main St');
```

-- 3. Insert multiple records into the student table

```
INSERT INTO Student (ID, Name, Age, Grade, Address)  
VALUES  
    (2, 'Bob', 22, 'B', '456 Oak St'),  
    (3, 'Charlie', 21, 'A', '789 Pine St'),  
    (4, 'Diana', 23, 'C', '321 Elm St');
```

-- 4. Read all records from the student table

```
SELECT * FROM Student;
```

-- 5. Update a record in the student table

```
UPDATE Student  
SET Grade = 'A+', Age = 21  
WHERE ID = 2;
```

-- 6. Alter the student table to add a new column

```
ALTER TABLE Student
```

```
ADD Email VARCHAR(100);
```

```
-- 7. Delete a record from the student table
```

```
DELETE FROM Student
```

```
WHERE ID = 4;
```

```
-- 8. Drop the student table
```

```
DROP TABLE Student;
```