Lab 8

Use of Different Keys in MySQL

**Introduction**

In the world of databases, CRUD operations refer to the fundamental operations performed on data: Create, Read, Update, and Delete. MySQL, a widely used relational database management system, supports these operations for managing data effectively. This report provides an overview of CRUD operations in MySQL, including their purpose, syntax, and examples.

**Create (C) - INSERT**

The **Create** operation in MySQL is implemented using the **INSERT** statement. It is used to add new records (rows) to a table.

**Syntax:**

INSERT INTO table\_name (column1, column2, ...) VALUES (value1, value2, ...);

* **table\_name**: The name of the table where you want to insert data.
* **(column1, column2, ...)**: Optional. Specify the columns where data will be inserted.
* **VALUES (value1, value2, ...)**: The values to be inserted into the specified columns.

**Example:**

INSERT INTO employees (employee\_id, employee\_name, salary) VALUES (101, 'John Doe', 50000);

**Read (R) - SELECT**

The **Read** operation in MySQL is achieved using the **SELECT** statement. It is used to retrieve data from one or more tables.

**Syntax:**

SELECT column1, column2, ... FROM table\_name WHERE condition;

* **column1, column2, ...**: The columns you want to retrieve (use **\*** for all columns).
* **table\_name**: The name of the table(s) from which you want to retrieve data.
* **WHERE condition**: Optional. Specifies a condition to filter the rows retrieved.

**Example:**

SELECT employee\_name, salary FROM employees WHERE department = 'IT';

**Update (U) - UPDATE**

The **Update** operation in MySQL is performed using the **UPDATE** statement. It allows you to modify existing records in a table.

**Syntax:**

UPDATE table\_name SET column1 = value1, column2 = value2, ... WHERE condition;

* **table\_name**: The name of the table to update.
* **SET column1 = value1, column2 = value2, ...**: Specifies the columns to be updated along with their new values.
* **WHERE condition**: Specifies the condition to identify which rows to update.

**Example:**

UPDATE employees SET salary = salary \* 1.1 WHERE department = 'Sales';

**Delete (D) - DELETE**

The **Delete** operation in MySQL is implemented using the **DELETE** statement. It is used to remove records from a table.

**Syntax:**

DELETE FROM table\_name WHERE condition;

* **table\_name**: The name of the table from which you want to delete data.
* **WHERE condition**: Specifies the condition to identify which rows to delete.

**Example:**

DELETE FROM customers WHERE last\_purchase\_date < '2022-01-01';

**Conclusion**

CRUD operations (Create, Read, Update, Delete) are fundamental to managing data in MySQL databases. These operations allow developers and database administrators to interact with and manipulate data effectively. Understanding the syntax and usage of **INSERT**, **SELECT**, **UPDATE**, and **DELETE** statements is essential for working with MySQL databases and building robust and efficient applications that rely on structured data.

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