WEEK TWO ASSIGNMENT

Filtering (Focus on Expense Tracker Data)

PART 1: Retrieving Data with SELECT

1.1 Retrieving All Expenses:

USE expense_tracker;

SELECT * FROM expenses;

1.2 Specific Columns:

USE expense_tracker;

SELECT amount, category, date FROM expenses ORDER BY category, date;

1.3 Filtering by Date Range:

USE expense_tracker;

SELECT date, category, amount

FROM expenses

WHERE date BETWEEN '2021-01-01' AND '2024-12-15'

ORDER BY date;

PART: Filtering with WHERE Clause

2.1 Filtering by Category:

USE expense_tracker;

SELECT date, category, amount

FROM expenses

WHERE category = 'Entertainment'

ORDER BY date;

2.2 Filtering with Comparison Operators:

USE expense_tracker;

SELECT date, category, amount

FROM expenses

WHERE amount > 50

ORDER BY amount ASC;

2.3 Combining Filters (AND):

USE expense_tracker;

SELECT date, category, amount

FROM expenses

WHERE amount > 75 AND category = 'Food';

2.4 Combining Filters (OR):

SELECT date, category, amount

FROM expenses

WHERE category = 'Transportation' OR category = 'Groceries'

ORDER BY date;

2.5 Filtering with NOT:

USE expense_tracker;

SELECT date, category, amount

FROM expenses

WHERE category <> 'Rent';

Part 3: Sorting Retrieved Data

3.1 Sorting by Amount:

USE expense_tracker;

SELECT * FROM expenses

ORDER BY amount DESC;

3.2 Sorting by Date and Category:

USE expense_tracker;

SELECT * FROM expenses

ORDER BY date DESC, category ASC;

Part 4: Database Upgrade:

4.1 Write SQL commands to achieve the following:

Create a table;

USE expense_tracker;

```
CREATE TABLE income(

income_id INT PRIMARY KEY auto_increment,

amount DECIMAL(10, 2) NOT NULL,

date DATE NOT NULL,

source VARCHAR(50) NOT NULL

);
```

4.2 After creating the "Income" table, you realize you also want to track the income category "source" (e.g., "Salary," "Freelance Work").

```
USE expense_tracker;

ALTER TABLE income

ADD COLUMN category_source VARCHAR(50);
```

4.3 Let's say you decide tracking the income source isn't necessary for now.

```
USE expense_tracker;

ALTER TABLE income

DROP COLUMN category_source;
```

Imagine you no longer need the "Income" table entirely. Experiment how to Use DROP TABLE to permanently remove it from your database.

```
USE expense_tracker;

DROP TABLE income;
```