**Week 2 Assignment**

**1.1 Retrieving All Expenses:**

*Query:*

SELECT \* FROM Expenses

**1.2 Specific Columns:**

*Query:*

SELECT date, category, amount FROM Expenses;

**1.3 Filtering by Date Range:**

*Query:*

SELECT \* FROM Expenses

WHERE date BETWEEN ‘2024-03-01’ AND ‘2024-06-30’;

**Part 2: Filtering with WHERE Clause (45 minutes)**

**2.1 Filtering by Category:**

*Query:*

SELECT \* FROM Expenses

WHERE category = ‘Entertainment’;

**2.2 Filtering with Comparison Operators:**

*Query:*

SELECT \* FROM Expenses

WHERE amount > 50;

**2.3 Combining Filters (AND):**

*Query:*

SELECT \* FROM Expenses

WHERE amount >75 AND category = ‘Food’;

**2.4 Combining Filters (OR):**

*Query:*

SELECT \* FROM Expenses

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

**2.5 Filtering with NOT:**

*Query:*

SELECT \* FROM Expenses

WHERE NOT category = 'Rent';

Alternatively;

SELECT \* FROM Expenses

WHERE category! = ’Rent’;

**Part 3: Sorting Retrieved Data (45 minutes)**

**3.1 Sorting by Amount:**

*Query:*

SELECT \* FROM Expenses

ORDER BY amount DESC;

**3.2 Sorting by Date and Category:**  
*Query:*

SELECT \* FROM Expenses

ORDER BY date DESC, category ASC;

**Part 4: Database Upgrade**

**4.1 Write SQL commands to achieve the following:**

CREATE TABLE Income (

income\_id INT AUTO\_INCREMENT PRIMARY KEY,

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").**

ALTER TABLE Income

ADD COLUMN category VARCHAR(50);

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

* Use ALTER TABLE again to remove the "source" column from the "Income" table.

ALTER TABLE Income

DROP COLUMN source;

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

DROP TABLE Income;