**Week 2: Essential Data Retrieval & Filtering**

**Part 1: Retrieving Data with SELECT**

1.1 Retrieving All Expenses:

SELECT \* FROM Expenses;

1.2 Specific Columns:

SELECT date, category, amount FROM Expenses;

1.3 Filtering by Date Range:

SELECT \* FROM Expenses WHERE date BETWEEN '2021-01-01' AND '2024-12-15';

**Part 2: Filtering with WHERE Clause**

2.1 Filtering by Category:

SELECT \* FROM Expenses WHERE category = 'Entertainment';

2.2 Filtering with Comparison Operators:

SELECT \* FROM Expenses WHERE amount > 50;

2.3 Combining Filters (AND):

SELECT \* FROM Expenses WHERE amount > 75 AND category = 'Food';

2.4 Combining Filters (OR):

SELECT \* FROM Expenses WHERE category = 'Transportation' OR category = 'Groceries';

2.5 Filtering with NOT:

SELECT \* FROM Expenses WHERE category != 'Rent';

**Part 3: Sorting Retrieved Data**

3.1 Sorting by Amount:

SELECT \* FROM Expenses ORDER BY amount DESC;

3.2 Sorting by Date and Category:

SELECT \* FROM Expenses ORDER BY date DESC, category ASC;

**Part 4: Database Upgrade**

4.1 Creating the "Income" Table:

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 Adding a New Column "category":

ALTER TABLE Income ADD COLUMN category VARCHAR(50);

4.3 Removing the "source" Column:

ALTER TABLE Income DROP COLUMN source;

Dropping the "Income" Table:

DROP TABLE Income;