# WEEK 2 ASSIGNMENT

## 1.1 Retrieving All Expenses:

Write an SQL query to retrieve all data points (columns) from the "Expenses" table.

**USE expense\_tracker;**

**SELECT \***

**FROM expenses;**

## 1.2 Specific Columns:

Modify your query to select only specific columns relevant to your analysis. For example, you might choose "date," "category," and "amount" to analyze spending patterns by category and date.

**SELECT category, amount, date**

**FROM expenses;**

## 1.3 Filtering by Date Range:

Write a query to retrieve expenses charged between a specific date range (e.g., January 1, 2021, to December 15, 2024). Remember to use the appropriate data type for the "date" column when specifying the date range in your query.

# SELECT \* FROM expenses WHERE date BETWEEN '2021-01-01' AND '2024-12-15'

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

## 2.1 Filtering by Category:

Write a query to find all expenses belonging to a specific category (e.g., "Entertainment").

**SELECT \***

**FROM expenses**

**WHERE category LIKE '%Entertainment%';**

## 2.2 Filtering with Comparison Operators:

Find expenses with an amount greater than a certain value (e.g., $50).

**SELECT \* FROM expenses**

**WHERE amount >50;**

2.3 Combining Filters (AND):Refine your query to find expenses that meet multiple criteria. For example, you might search for expenses greater than $75 AND belonging to the "Food" category.

**SELECT \* FROM expenses**

**WHERE amount >50 AND category LIKE '%Transportation%';**

## 2.4 Combining Filters (OR):

Modify your query to find expenses belonging to one category or another (e.g., "Transportation" OR "Groceries").

**SELECT \* FROM expenses**

**WHERE category LIKE '%Transportation%' OR category LIKE '%Groceries%';**

## 2.5 Filtering with NOT:

Write a query to display expenses unrelated to a specific category (e.g., "Rent").

**SELECT \* FROM expenses**

**WHERE category NOT IN ('Rent');**

# Part 3: Sorting Retrieved Data (45 minutes)

## 3.1 Sorting by Amount:

Write a query to display all expenses sorted by amount in a specific order (e.g., descending order for highest to lowest spending).

**SELECT \* FROM expenses**

**ORDER BY amount DESC;**

3.2 Sorting by Date and Category:Modify your query to sort expenses based on multiple columns. For example, you might sort first by date (descending order) and then by category (ascending order) to see recent spending trends by category.

**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 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").

**ALTER TABLE Income**

**ADD COLUMN category VARCHAR(50);**

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

**ALTER TABLE Income**

**DROP COLUMN source;**

Incase you want to drop the whole table;

**DROP TABLE Income;**