**SQL Scripts for Food Waste Analysis**

**Creating Tables**

SQL

CREATE TABLE Household (

household\_id INT PRIMARY KEY,

location VARCHAR(100),

income\_level VARCHAR(50),

number\_of\_members INT,

household\_size VARCHAR(50)

);

CREATE TABLE FoodItem (

food\_item\_id INT PRIMARY KEY,

name VARCHAR(100),

category VARCHAR(50)

);

CREATE TABLE Purchase (

purchase\_id INT PRIMARY KEY,

household\_id INT,

food\_item\_id INT,

quantity DECIMAL(10,2),

purchase\_date DATE,

FOREIGN KEY (household\_id) REFERENCES Household(household\_id),

FOREIGN KEY (food\_item\_id) REFERENCES FoodItem(food\_item\_id)

);

-- ... (continue creating tables for Consumption, Waste, Recipe, RecipeIngredient, MealPlan, and MealPlanItem)

**Inserting Sample Data**

SQL

INSERT INTO Household (household\_id, location, income\_level, number\_of\_members, household\_size)

VALUES

(1, 'Nairobi', 'Middle Class', 4, 'Small'),

(2, 'Mombasa', 'Low Income', 2, 'Small'),

-- ... (add more households)

INSERT INTO FoodItem (food\_item\_id, name, category)

VALUES

(1, 'Bread', 'Grains'),

(2, 'Milk', 'Dairy'),

-- ... (add more food items)

-- ... (continue inserting sample data for other tables)

**Query Examples**

**Calculating total food waste per household:**

SQL

SELECT Household.household\_id, SUM(Waste.quantity) AS total\_waste

FROM Household

INNER JOIN Waste ON Household.household\_id = Waste.household\_id

GROUP BY Household.household\_id;

**Identifying frequently wasted food items:**

SQL

SELECT FoodItem.name, SUM(Waste.quantity) AS total\_waste

FROM FoodItem

INNER JOIN Waste ON FoodItem.food\_item\_id = Waste.food\_item\_id

GROUP BY FoodItem.name

ORDER BY total\_waste DESC;

**Analyzing the relationship between income level and food waste:**

SQL

SELECT Household.income\_level, SUM(Waste.quantity) AS total\_waste

FROM Household

INNER JOIN Waste ON Household.household\_id = Waste.household\_id

GROUP BY Household.income\_level;

**Exploring the impact of meal planning on food waste:**

SQL

SELECT Household.household\_id, AVG(CASE WHEN MealPlan.meal\_plan\_id IS NULL THEN 1 ELSE 0 END) AS meal\_planning\_rate,

SUM(Waste.quantity) AS total\_waste

FROM Household

LEFT JOIN MealPlan ON Household.household\_id = MealPlan.household\_id

LEFT JOIN Waste ON Household.household\_id = Waste.household\_id

GROUP BY Household.household\_id;