



ΕΘΝΙΚΟ ΜΕΤΣΟΒΙΟ ΠΟΛΥΤΕΧΝΕΙΟ

ΣΧΟΛΗ ΗΛΕΚΤΡΟΛΟΓΩΝ ΜΗΧΑΝΙΚΩΝ ΚΑΙ ΜΗΧΑΝΙΚΩΝ

ΥΠΟΛΟΓΙΣΤΩΝ

Βάσεις Δεδομένων

Εξαμηνιαία Εργασία 2023 – 2024

Ομάδα 106

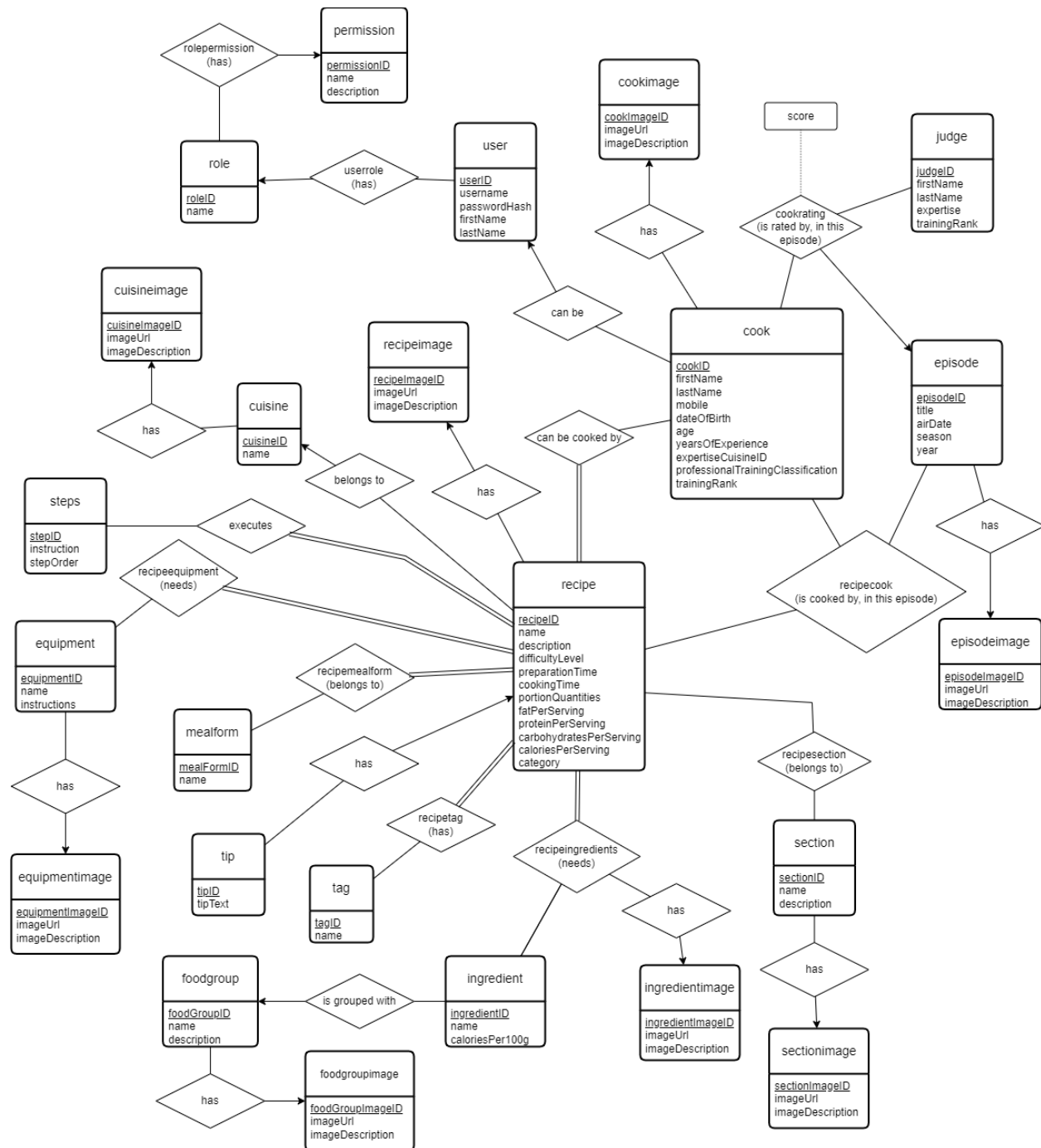
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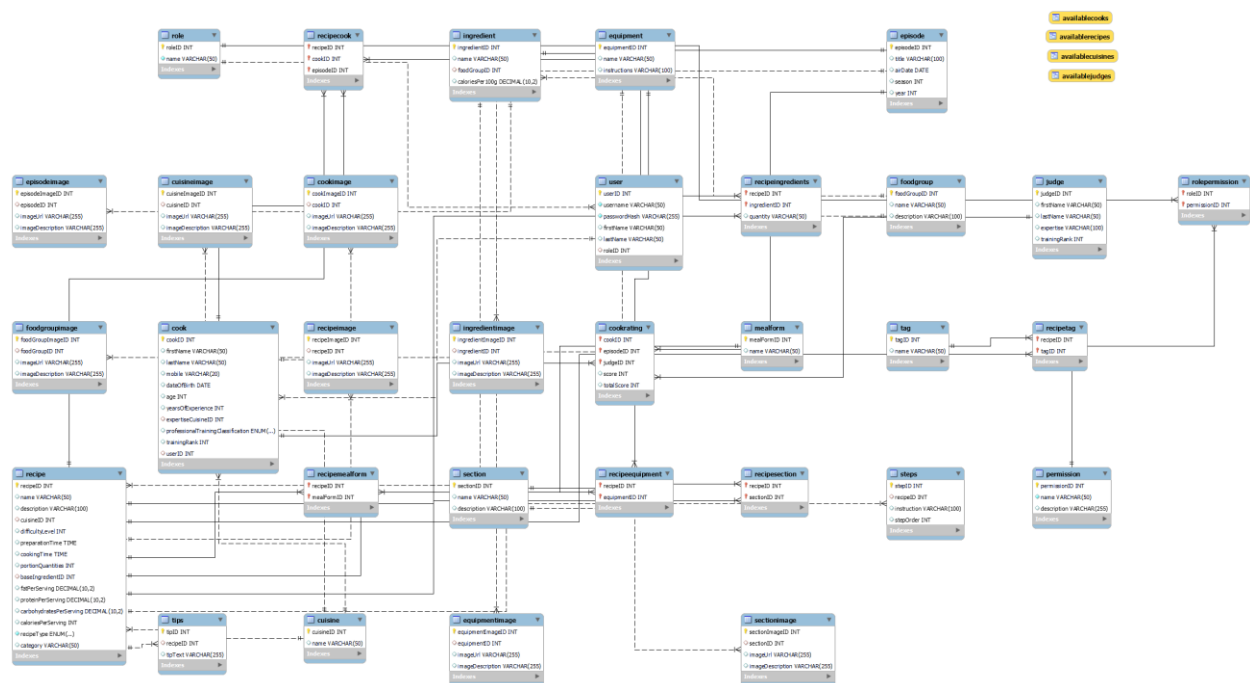
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1. Διάγραμμα Οντοτήτων - Συσχετίσεων (ER) της Βάσης Δεδομένων



2. Σχισιακό διάγραμμα της Βάσης Δεδομένων



Το Relational Schema σχεδιάστηκε μέσω της εφαρμογής “MySQL Workbench”.

Ας αναλύσουμε κάθε πίνακα και τις σχέσεις τους:

Πίνακας Cuisine (Κουζίνα)

cuisineID: Κύριο κλειδί, μοναδικό αναγνωριστικό για κάθε κουζίνα.

name: Όνομα της κουζίνας.

Πίνακας FoodGroup (Ομάδα Τροφίμων)

foodGroupID: Κύριο κλειδί, μοναδικό αναγνωριστικό για κάθε ομάδα τροφίμων.

name: Όνομα της ομάδας τροφίμων.

description: Περιγραφή της ομάδας τροφίμων.

Πίνακας Ingredient (Συστατικό)

ingredientID: Κύριο κλειδί, μοναδικό αναγνωριστικό για κάθε συστατικό.

name: Όνομα του συστατικού.

foodGroupID: Ξένο κλειδί, αναφορά στο foodGroupID στον πίνακα FoodGroup.

caloriesPer100g: Θερμίδες ανά 100 γραμμάρια.

Πίνακας Equipment (Εξοπλισμός)

equipmentID: Κύριο κλειδί, μοναδικό αναγνωριστικό για κάθε κομμάτι εξοπλισμού.

name: Όνομα του εξοπλισμού.

instructions: Οδηγίες χρήσης του εξοπλισμού.

Πίνακας Recipe (Συνταγή)

recipeID: Κύριο κλειδί, μοναδικό αναγνωριστικό για κάθε συνταγή.

name: Όνομα της συνταγής.

description: Περιγραφή της συνταγής.

cuisineID: Ξένο κλειδί, αναφορά στο cuisineID στον πίνακα Cuisine.

difficultyLevel: Επίπεδο δυσκολίας της συνταγής (1 έως 5).

preparationTime, cookingTime: Χρόνος προετοιμασίας και μαγειρέματος.

portionQuantities: Ποσότητες μερίδων που εξυπηρετεί η συνταγή.

baseIngredientID: Ξένο κλειδί, αναφορά στο ingredientID στον πίνακα Ingredient.

fatPerServing, proteinPerServing, carbohydratesPerServing, caloriesPerServing: Θρεπτικές πληροφορίες ανά μερίδα.

recipeType: Τύπος συνταγής, δηλαδή αν είναι μαγειρικής ή ζαχαροπλαστικής

category: Κατηγορία βάσει του βασικού συστατικού.

Πίνακας MealForm (Μορφή Γεύματος)

mealFormID: Κύριο κλειδί, μοναδικό αναγνωριστικό για κάθε μορφή γεύματος.

name: Όνομα της μορφής γεύματος.

Πίνακας RecipeMealForm (Συσχετισμός Συνταγής-Μορφής Γεύματος)

recipeID: Ξένο κλειδί, αναφορά στο recipeID στον πίνακα Recipe.

mealFormID: Ξένο κλειδί, αναφορά στο mealFormID στον πίνακα MealForm.

Πίνακας Tag (Ετικέτα)

tagID: Κύριο κλειδί, μοναδικό αναγνωριστικό για κάθε ετικέτα.

name: Όνομα της ετικέτας.

Πίνακας RecipeTag (Συσχετισμός Συνταγής-Ετικέτας)

recipeID: Ξένο κλειδί, αναφορά στο recipeID στον πίνακα Recipe.

tagID: Ξένο κλειδί, αναφορά στο tagID στον πίνακα Tag.

Πίνακας Steps (Βήματα)

stepID: Κύριο κλειδί, μοναδικό αναγνωριστικό για κάθε βήμα.

recipeID: Ξένο κλειδί, αναφορά στο recipeID στον πίνακα Recipe.

instruction: Οδηγία για το βήμα.

stepOrder: Σειρά του βήματος στη συνταγή.

Πίνακας RecipeEquipment (Συσχετισμός Συνταγής-Εξοπλισμού)

recipeID: Ξένο κλειδί, αναφορά στο recipeID στον πίνακα Recipe.

equipmentID: Ξένο κλειδί, αναφορά στο equipmentID στον πίνακα Equipment.

Πίνακας Section (Ενότητα)

sectionID: Κύριο κλειδί, μοναδικό αναγνωριστικό για κάθε ενότητα.

name: Όνομα της ενότητας.

description: Περιγραφή της ενότητας.

Πίνακας RecipeSection (Συσχετισμός Συνταγής-Ενότητας)

recipeID: Ξένο κλειδί, αναφορά στο recipeID στον πίνακα Recipe.

sectionID: Ξένο κλειδί, αναφορά στο sectionID στον πίνακα Section.

Πίνακας Cook (Μάγειρας)

cookID: Κύριο κλειδί, μοναδικό αναγνωριστικό για κάθε μάγειρα.

firstName, lastName, mobile, dateOfBirth, age, yearsOfExperience: Προσωπικά και επαγγελματικά στοιχεία.

expertiseCuisineID: Ξένο κλειδί, αναφορά στο cuisineID στον πίνακα Cuisine.

professionalTrainingClassification: Κατάταξη επαγγελματικής εκπαίδευσης.

trainingRank: Αριθμητική κατάταξη βάσει της επαγγελματικής εκπαίδευσης.

userID: Ξένο κλειδί, αναφορά στο userID στον πίνακα User.

Πίνακας RecipeCook (Συσχετισμός Συνταγής-Μάγειρα)

recipeID: Ξένο κλειδί, αναφορά στο recipeID στον πίνακα Recipe.

cookID: Ξένο κλειδί, αναφορά στο cookID στον πίνακα Cook.

episodeID: Ξένο κλειδί, αναφορά στο episodeID στον πίνακα Episode.

Πίνακας Episode (Επεισόδιο)

episodeID: Κύριο κλειδί, μοναδικό αναγνωριστικό για κάθε επεισόδιο.

title, airDate, season, year: Στοιχεία του επεισοδίου.

Πίνακας Judge (Κριτής)

judgeID: Κύριο κλειδί, μοναδικό αναγνωριστικό για κάθε κριτή.

firstName, lastName, expertise: Προσωπικά και επαγγελματικά στοιχεία.

trainingRank: Αριθμητική κατάταξη βάσει της εξειδίκευσης.

Πίνακας CookRating (Αξιολόγηση Μάγειρα)

cookID: Ξένο κλειδί, αναφορά στο cookID στον πίνακα Cook.

episodeID: Ξένο κλειδί, αναφορά στο episodeID στον πίνακα Episode.

judgeID: Ξένο κλειδί, αναφορά στο judgeID στον πίνακα Judge.

score: Βαθμολογία που δίνεται από τον κριτή.

totalScore: Συνολική βαθμολογία του μάγειρα στο επεισόδιο.

Πίνακας Tips (Συμβουλές)

tipID: Κύριο κλειδί, μοναδικό αναγνωριστικό για κάθε συμβουλή.

recipeID: Ξένο κλειδί, αναφορά στο recipeID στον πίνακα Recipe.

tipText: Κείμενο της συμβουλής.

Πίνακας RecipeIngredients (Συστατικά Συνταγής)

recipeID: Ξένο κλειδί, αναφορά στο recipeID στον πίνακα Recipe.

ingredientID: Ξένο κλειδί, αναφορά στο ingredientID στον πίνακα Ingredient.

quantity: Ποσότητα του συστατικού στη συνταγή.

Πίνακες Εικόνων

CuisineImage (Εικόνα Κουζίνας): Εικόνες που σχετίζονται με κουζίνες.

cuisineImageID, cuisineID, imageUrl, imageDescription.

FoodGroupImage (Εικόνα Ομάδας Τροφίμων): Εικόνες που σχετίζονται με ομάδες τροφίμων.

foodGroupImageID, foodGroupID, imageUrl, imageDescription.

EquipmentImage (Εικόνα Εξοπλισμού): Εικόνες που σχετίζονται με εξοπλισμό.

equipmentImageID, equipmentID, imageUrl, imageDescription.

SectionImage (Εικόνα Ενότητας): Εικόνες που σχετίζονται με ενότητες.

sectionImageID, sectionID, imageUrl, imageDescription.

RecipeImage (Εικόνα Συνταγής): Εικόνες που σχετίζονται με συνταγές.

recipeImageID, recipeID, imageUrl, imageDescription.

IngredientImage (Εικόνα Συστατικού): Εικόνες που σχετίζονται με συστατικά.

ingredientImageID, ingredientID, imageUrl, imageDescription.

CookImage (Εικόνα Μάγειρα): Εικόνες που σχετίζονται με μάγειρες.

cookImageID, cookID, imageUrl, imageDescription.

EpisodeImage (Εικόνα Επεισοδίου): Εικόνες που σχετίζονται με επεισόδια.

episodeImageID, episodeID, imageUrl, imageDescription.

Πίνακας Role (Ρόλος)

roleID: Κύριο κλειδί, μοναδικό αναγνωριστικό για κάθε ρόλο.

name: Όνομα του ρόλου.

Πίνακας User (Χρήστης)

userID: Κύριο κλειδί, μοναδικό αναγνωριστικό για κάθε χρήστη.

username, passwordHash, firstName, lastName: Στοιχεία του χρήστη.

roleID: Ξένο κλειδί, αναφορά στο roleID στον πίνακα Role.

Πίνακας Permission (Άδεια)

permissionID: Κύριο κλειδί, μοναδικό αναγνωριστικό για κάθε άδεια.

name, description: Στοιχεία της άδειας.

Πίνακας RolePermission (Συσχετισμός Ρόλου-Άδειας)

roleID: Ξένο κλειδί, αναφορά στο roleID στον πίνακα Role.

permissionID: Ξένο κλειδί, αναφορά στο permissionID στον πίνακα Permission.

3. Ευρετήρια (Indexes)

Οι δείκτες δημιουργούνται για τη βελτιστοποίηση της απόδοσης των ερωτημάτων της βάσης δεδομένων μειώνοντας την ποσότητα των δεδομένων που πρέπει να σαρωθούν.

1) Indexes για τις συνταγές

```
CREATE INDEX idx_recipe_name ON Recipe(name);
```

Σκοπός: Χρήσιμο για ερωτήματα που φιλτράρουν ή ταξινομούν τις συνταγές με βάση το όνομά τους.

```
CREATE INDEX idx_recipe_cuisine ON Recipe(cuisineID);
```

Σκοπός: Επιτάχυνση των ερωτημάτων που φιλτράρουν τις συνταγές βάσει του τύπου κουζίνας.

```
CREATE INDEX idx_recipe_difficulty ON Recipe(difficultyLevel);
```

Σκοπός: Βελτίωση της απόδοσης των ερωτημάτων που φιλτράρουν τις συνταγές με βάση το επίπεδο δυσκολίας, καθιστώντας πιο γρήγορη την εύρεση συνταγών εντός ενός συγκεκριμένου εύρους δυσκολίας.

2) Index για το Ingredient

```
CREATE INDEX idx_ingredient_foodgroup ON Ingredient(foodGroupID);
```

Σκοπός: Ενίσχυση της απόδοσης των συνενώσεων μεταξύ των πινάκων Ingredient και FoodGroup. Αυτός ο δείκτης είναι χρήσιμος όταν ανακτώνται συστατικά βάσει της ομάδας τροφίμων τους.

3) Indexes για τον πίνακα Cook

```
CREATE INDEX idx_cook_lastname ON Cook(lastName);
```

Σκοπός: Επιτάχυνση των αναζητήσεων βάσει του επωνύμου των μαγείρων

```
CREATE INDEX idx_cook_cuisine ON Cook(expertiseCuisineID);
```

Σκοπός: Βελτιστοποίηση των ερωτημάτων που φιλτράρουν τους μάγειρες με βάση την εξειδίκευσή τους στην κουζίνα.

4) Indexes για τον εξοπλισμό και τα sections

```
CREATE INDEX idx_equipment_name ON Equipment(name);
```

Σκοπός: Βελτίωση της ταχύτητας των ερωτημάτων που φιλτράρουν ή ταξινομούν τον εξοπλισμό βάσει του ονόματός του.

```
CREATE INDEX idx_section_name ON Section(name);
```

Σκοπός: Βελτιστοποίηση των αναζητήσεων και των ταξινομήσεων βάσει των ονομάτων των sections

5) Indexes για το query 8

```
CREATE INDEX idx_recipe_cook_episode ON RecipeCook(episodeID);
```

Σκοπός: Χρήσιμο για την εύρεση όλων των συνταγών που μαγειρεύτηκαν σε ένα συγκεκριμένο επεισόδιο.

```
CREATE INDEX idx_recipe_equipment_recipe ON RecipeEquipment(recipeID);
```


Σκοπός: Επιτάχυνση των συνενώσεων που αφορούν τον πίνακα RecipeEquipment, ιδιαίτερα αυτών που φιλτράρουν βάσει του αναγνωριστικού συνταγής.

6) CREATE INDEX idx_episode_year ON Episode(year);

Σκοπός: Βελτίωση της απόδοσης των ερωτημάτων που φιλτράρουν τα επεισόδια βάσει του έτους.

7) Indexes για το query 6

CREATE INDEX idx_recipeTag_recipeID_tagID ON RecipeTag(recipeID, tagID);

Σκοπός: Βελτιστοποίηση της απόδοσης των συνενώσεων που αφορούν το αναγνωριστικό συνταγής και το αναγνωριστικό ετικέτας στον πίνακα RecipeTag.

CREATE INDEX idx_recipeTag_tagID ON RecipeTag(tagID);

Σκοπός: Ενίσχυση των ερωτημάτων που φιλτράρουν βάσει του αναγνωριστικού ετικέτας, καθιστώντας ταχύτερη την εύρεση όλων των συνταγών με συγκεκριμένη ετικέτα.

CREATE INDEX idx_tag_name ON Tag(name);

Σκοπός: Επιτάχυνση των αναζητήσεων βάσει των ονομάτων ετικετών.

CREATE INDEX idx_recipe_recipeID ON Recipe(recipeID);

Σκοπός: Βελτίωση της απόδοσης των ερωτημάτων που αφορούν τον πίνακα Recipe βάσει του αναγνωριστικού συνταγής.

CREATE INDEX idx_recipeSection_recipeID ON RecipeSection(recipeID);

Σκοπός: Ενίσχυση των ερωτημάτων που αφορούν τον πίνακα RecipeSection, ιδιαίτερα αυτών που φιλτράρουν βάσει του αναγνωριστικού συνταγής.

4) DDL script

-- Cuisine Table

```
CREATE TABLE Cuisine (  
    cuisineID INT PRIMARY KEY AUTO_INCREMENT,  
    name VARCHAR(50)  
);
```

-- Food Group Table

```
CREATE TABLE FoodGroup (  
    foodGroupID INT PRIMARY KEY AUTO_INCREMENT,  
    name VARCHAR(50),  
    description VARCHAR(100)  
);
```

-- Ingredient Table

```
CREATE TABLE Ingredient (  
    ingredientID INT PRIMARY KEY AUTO_INCREMENT,  
    name VARCHAR(50),  
    foodGroupID INT,  
    caloriesPer100g DECIMAL(10,2),  
    FOREIGN KEY (foodGroupID) REFERENCES FoodGroup(foodGroupID)  
);
```

-- Equipment Table

```
CREATE TABLE Equipment (  
    equipmentID INT PRIMARY KEY AUTO_INCREMENT,  
    name VARCHAR(50),  
    instructions VARCHAR(100)  
);
```

-- Recipe Table

```
CREATE TABLE Recipe (  
    recipeID INT PRIMARY KEY AUTO_INCREMENT,  
    name VARCHAR(50),  
    description VARCHAR(100),  
    cuisineID INT,  
    difficultyLevel INT CHECK (difficultyLevel BETWEEN 1 AND 5),  
    preparationTime TIME,  
    cookingTime TIME,  
    portionQuantities INT,
```

```

baseIngredientID INT,

fatPerServing DECIMAL(10,2),

proteinPerServing DECIMAL(10,2),

carbohydratesPerServing DECIMAL(10,2),

caloriesPerServing INT,

recipeType ENUM('Cooking', 'Baking') NOT NULL,

FOREIGN KEY (cuisineID) REFERENCES Cuisine(cuisineID),

FOREIGN KEY (baseIngredientID) REFERENCES Ingredient(ingredientID)

);

```

-- Meal Form Table

```

CREATE TABLE MealForm (

    mealFormID INT PRIMARY KEY AUTO_INCREMENT,

    name VARCHAR(50)

);

```

-- Recipe Meal Form Linking Table

```

CREATE TABLE RecipeMealForm (

    recipeID INT,

    mealFormID INT,

    PRIMARY KEY (recipeID, mealFormID),

    FOREIGN KEY (recipeID) REFERENCES Recipe(recipeID),

    FOREIGN KEY (mealFormID) REFERENCES MealForm(mealFormID)

);

```

-- Tag Table

```

CREATE TABLE Tag (

    tagID INT PRIMARY KEY AUTO_INCREMENT,

    name VARCHAR(50)

);

```

-- Recipe Tag Linking Table

```

CREATE TABLE RecipeTag (

    recipeID INT,

    tagID INT,

    PRIMARY KEY (recipeID, tagID),

    FOREIGN KEY (recipeID) REFERENCES Recipe(recipeID),

    FOREIGN KEY (tagID) REFERENCES Tag(tagID)

);

```

-- Steps Table

```

CREATE TABLE Steps (

    stepID INT PRIMARY KEY AUTO_INCREMENT,

    recipeID INT,

    instruction VARCHAR(100),

    stepOrder INT,

    FOREIGN KEY (recipeID) REFERENCES Recipe(recipeID)

);


-- Recipe Equipment Linking Table

CREATE TABLE RecipeEquipment (

    recipeID INT,

    equipmentID INT,

    PRIMARY KEY (recipeID, equipmentID),

    FOREIGN KEY (recipeID) REFERENCES Recipe(recipeID),

    FOREIGN KEY (equipmentID) REFERENCES Equipment(equipmentID)

);


-- Section Table

CREATE TABLE Section (

    sectionID INT PRIMARY KEY AUTO_INCREMENT,

    name VARCHAR(50),

    description VARCHAR(100)

);


-- Recipe Section Linking Table

CREATE TABLE RecipeSection (

    recipeID INT,

    sectionID INT,

    PRIMARY KEY (recipeID, sectionID),

    FOREIGN KEY (recipeID) REFERENCES Recipe(recipeID),

    FOREIGN KEY (sectionID) REFERENCES Section(sectionID)

);


-- Cook Table

CREATE TABLE Cook (

    cookID INT PRIMARY KEY AUTO_INCREMENT,

    firstName VARCHAR(50),

    lastName VARCHAR(50),

    mobile VARCHAR(20),

    dateOfBirth DATE,

    age INT,

```

```

yearsOfExperience INT,

expertiseCuisineID INT,

professionalTrainingClassification ENUM('3rd cook', '2nd cook', '1st cook', 'assistant chef cook', 'chef cook'),

FOREIGN KEY (expertiseCuisineID) REFERENCES Cuisine(cuisineID)

);

```

-- Recipe Cook Linking Table

```

CREATE TABLE RecipeCook (

    recipeID INT,

    cookID INT,

    PRIMARY KEY (recipeID, cookID),

    FOREIGN KEY (recipeID) REFERENCES Recipe(recipeID),

    FOREIGN KEY (cookID) REFERENCES Cook(cookID)

);

```

-- Store information about each episode

```

CREATE TABLE Episode (

    episodeID INT PRIMARY KEY AUTO_INCREMENT,

    title VARCHAR(100),

    airDate DATE,

    season INT

);

```

-- Store basic information about each judge

```

CREATE TABLE Judge (

    judgeID INT PRIMARY KEY AUTO_INCREMENT,

    firstName VARCHAR(50),

    lastName VARCHAR(50),

    expertise VARCHAR(100) -- General area of culinary expertise or role

);

```

-- This table links the cooks, the episodes they participated in, and the scores given by each judge.

-- CookRating Table

```

CREATE TABLE CookRating (

    cookID INT,

    episodeID INT,

    judgeID INT,

    score INT,

    FOREIGN KEY (cookID) REFERENCES Cook(cookID),

    FOREIGN KEY (episodeID) REFERENCES Episode(episodeID),

    FOREIGN KEY (judgeID) REFERENCES Judge(judgeID),

);

```

```

PRIMARY KEY (cookID, episodeID, judgeID)

);

-- Adding the totalScore column

ALTER TABLE CookRating ADD COLUMN totalScore INT;

-- Create a temporary table to store the calculated total scores

CREATE TEMPORARY TABLE TempCookRatingTotalScore AS

SELECT cookID, episodeID, SUM(score) as totalScore

FROM CookRating

GROUP BY cookID, episodeID;

-- Update the CookRating table using the temporary table

UPDATE CookRating cr

JOIN TempCookRatingTotalScore tcr

ON cr.cookID = tcr.cookID AND cr.episodeID = tcr.episodeID

SET cr.totalScore = tcr.totalScore;

-- Drop the temporary table as it is no longer needed

DROP TEMPORARY TABLE TempCookRatingTotalScore;

-- Tips Table

CREATE TABLE Tips (

    tipID INT PRIMARY KEY AUTO_INCREMENT,

    recipeID INT,

    tipText VARCHAR(255),

    FOREIGN KEY (recipeID) REFERENCES Recipe(recipeID)

);

-- RecipeIngredients Table

CREATE TABLE RecipeIngredients (

    recipeID INT,

    ingredientID INT,

    quantity VARCHAR(50),

    PRIMARY KEY (recipeID, ingredientID),

    FOREIGN KEY (recipeID) REFERENCES Recipe(recipeID),

    FOREIGN KEY (ingredientID) REFERENCES Ingredient(ingredientID)

);

ALTER TABLE RecipeCook ADD COLUMN episodeID INT;

ALTER TABLE RecipeCook ADD CONSTRAINT fk_episodeID FOREIGN KEY (episodeID) REFERENCES Episode(episodeID);

```

```
ALTER TABLE RecipeCook DROP PRIMARY KEY, ADD PRIMARY KEY (recipeID, cookID, episodeID);
```

```
ALTER TABLE Episode
```

```
ADD COLUMN year INT;
```

```
UPDATE Episode
```

```
SET year = YEAR(airDate);
```

```
ALTER TABLE Cook
```

```
ADD COLUMN trainingRank INT;
```

```
UPDATE Cook SET trainingRank = CASE
```

```
    WHEN professionalTrainingClassification = '3rd cook' THEN 1
```

```
    WHEN professionalTrainingClassification = '2nd cook' THEN 2
```

```
    WHEN professionalTrainingClassification = '1st cook' THEN 3
```

```
    WHEN professionalTrainingClassification = 'assistant chef cook' THEN 4
```

```
    WHEN professionalTrainingClassification = 'chef cook' THEN 5
```

```
    ELSE NULL
```

```
END;
```

```
ALTER TABLE Judge
```

```
ADD COLUMN trainingRank INT;
```

```
ALTER TABLE Recipe ADD COLUMN category VARCHAR(50);
```

```
UPDATE Recipe
```

```
JOIN Ingredient ON Recipe.baseIngredientID = Ingredient.ingredientID
```

```
JOIN FoodGroup ON Ingredient.foodGroupID = FoodGroup.foodGroupID
```

```
SET Recipe.category = CASE
```

```
    WHEN FoodGroup.name = 'Fish' THEN 'Seafood'
```

```
    WHEN FoodGroup.name = 'Seafood' THEN 'Seafood'
```

```
    WHEN FoodGroup.name = 'Vegetables' THEN 'Vegetarian'
```

```
    WHEN FoodGroup.name = 'Fruits' THEN 'Vegetarian'
```

```
    WHEN FoodGroup.name = 'Nuts' THEN 'Vegetarian'
```

```
    WHEN FoodGroup.name = 'Legumes' THEN 'Vegetarian'
```

```
    WHEN FoodGroup.name = 'Poultry' THEN 'Poultry'
```

```
    WHEN FoodGroup.name = 'Meat' THEN 'Meat'
```

```
    WHEN FoodGroup.name = 'Dairy' THEN 'Dairy'
```

```
    WHEN FoodGroup.name = 'Grains' THEN 'Grains'
```

```
    WHEN FoodGroup.name = 'Confectionery' THEN 'Confectionery'
```

```
    WHEN FoodGroup.name = 'Baked Goods' THEN 'Baked Goods'
```

```
    WHEN FoodGroup.name = 'Spices and Herbs' THEN 'Spices and Herbs'
```

```
    WHEN FoodGroup.name = 'Beverages' THEN 'Beverages'
```

```
    WHEN FoodGroup.name = 'Oils and Fats' THEN 'Oils and Fats'
```

```
    WHEN FoodGroup.name = 'Root Vegetables' THEN 'Vegetarian'
```

```

    WHEN FoodGroup.name = 'Leafy Greens' THEN 'Vegetarian'

    WHEN FoodGroup.name = 'Cruciferous' THEN 'Vegetarian'

    WHEN FoodGroup.name = 'Squashes' THEN 'Vegetarian'

    WHEN FoodGroup.name = 'Mushrooms' THEN 'Vegetarian'

    WHEN FoodGroup.name = 'Tubers' THEN 'Vegetarian'

    WHEN FoodGroup.name = 'Citrus Fruits' THEN 'Vegetarian'

    WHEN FoodGroup.name = 'Stone Fruits' THEN 'Vegetarian'

    WHEN FoodGroup.name = 'Berries' THEN 'Vegetarian'

    WHEN FoodGroup.name = 'Melons' THEN 'Vegetarian'

    WHEN FoodGroup.name = 'Exotic Fruits' THEN 'Vegetarian'

    WHEN FoodGroup.name = 'Pasta and Noodles' THEN 'Grains'

    WHEN FoodGroup.name = 'Ready-to-Eat' THEN 'Ready-to-Eat'

    WHEN FoodGroup.name = 'Sauces and Dips' THEN 'Sauces and Dips'

    WHEN FoodGroup.name = 'Dairy Alternatives' THEN 'Vegetarian'

    WHEN FoodGroup.name = 'Gluten-Free' THEN 'Gluten-Free'

    WHEN FoodGroup.name = 'Sugar-Free' THEN 'Sugar-Free'

    WHEN FoodGroup.name = 'Low-Carb' THEN 'Low-Carb'

    WHEN FoodGroup.name = 'High-Protein' THEN 'High-Protein'

    WHEN FoodGroup.name = 'Whole Grain' THEN 'Whole Grain'

    ELSE 'Miscellaneous'

END;

```

```

ALTER TABLE Recipe MODIFY COLUMN caloriesPerServing INT;

```

```

-- Cuisine Images Table

```

```

CREATE TABLE CuisineImage (

    cuisineImageID INT PRIMARY KEY AUTO_INCREMENT,

    cuisineID INT,

    imageUrl VARCHAR(255),

    imageDescription VARCHAR(255),

    FOREIGN KEY (cuisineID) REFERENCES Cuisine(cuisineID)

);

```

```

-- FoodGroup Images Table

```

```

CREATE TABLE FoodGroupImage (

    foodGroupImageID INT PRIMARY KEY AUTO_INCREMENT,

    foodGroupID INT,

    imageUrl VARCHAR(255),

    imageDescription VARCHAR(255),

    FOREIGN KEY (foodGroupID) REFERENCES FoodGroup(foodGroupID)

);

```


-- Equipment Images Table

```
CREATE TABLE EquipmentImage (  
    equipmentImageID INT PRIMARY KEY AUTO_INCREMENT,  
    equipmentID INT,  
    imageUrl VARCHAR(255),  
    imageDescription VARCHAR(255),  
    FOREIGN KEY (equipmentID) REFERENCES Equipment(equipmentID)  
);
```

-- Section Images Table

```
CREATE TABLE SectionImage (  
    sectionImageID INT PRIMARY KEY AUTO_INCREMENT,  
    sectionID INT,  
    imageUrl VARCHAR(255),  
    imageDescription VARCHAR(255),  
    FOREIGN KEY (sectionID) REFERENCES Section(sectionID)  
);
```

-- Recipe Images Table

```
CREATE TABLE RecipeImage (  
    recipeImageID INT PRIMARY KEY AUTO_INCREMENT,  
    recipeID INT,  
    imageUrl VARCHAR(255),  
    imageDescription VARCHAR(255),  
    FOREIGN KEY (recipeID) REFERENCES Recipe(recipeID)  
);
```

-- Ingredient Images Table

```
CREATE TABLE IngredientImage (  
    ingredientImageID INT PRIMARY KEY AUTO_INCREMENT,  
    ingredientID INT,  
    imageUrl VARCHAR(255),  
    imageDescription VARCHAR(255),  
    FOREIGN KEY (ingredientID) REFERENCES Ingredient(ingredientID)  
);
```

-- Cook Images Table

```
CREATE TABLE CookImage (  
    cookImageID INT PRIMARY KEY AUTO_INCREMENT,  
    cookID INT,
```

```

        imageUrl VARCHAR(255),

        imageDescription VARCHAR(255),

        FOREIGN KEY (cookID) REFERENCES Cook(cookID)

    );

-- Episode Images Table

CREATE TABLE EpisodeImage (

    episodeImageID INT PRIMARY KEY AUTO_INCREMENT,

    episodeID INT,

    imageUrl VARCHAR(255),

    imageDescription VARCHAR(255),

    FOREIGN KEY (episodeID) REFERENCES Episode(episodeID)

);

-- Role Table

CREATE TABLE Role (

    roleID INT PRIMARY KEY AUTO_INCREMENT,

    name VARCHAR(50) UNIQUE NOT NULL

);

-- User Table

CREATE TABLE User (

    userID INT PRIMARY KEY AUTO_INCREMENT,

    username VARCHAR(50) UNIQUE NOT NULL,

    passwordHash VARCHAR(255) NOT NULL,

    firstName VARCHAR(50),

    lastName VARCHAR(50),

    roleID INT,

    FOREIGN KEY (roleID) REFERENCES Role(roleID)

);

-- Permission Table

CREATE TABLE Permission (

    permissionID INT PRIMARY KEY AUTO_INCREMENT,

    name VARCHAR(50) UNIQUE NOT NULL,

    description VARCHAR(255)

);

-- RolePermission Table

CREATE TABLE RolePermission (

    roleID INT,

```

```

    permissionID INT,

    PRIMARY KEY (roleID, permissionID),

    FOREIGN KEY (roleID) REFERENCES Role(roleID),

    FOREIGN KEY (permissionID) REFERENCES Permission(permissionID)

);

ALTER TABLE Cook ADD COLUMN userID INT;

ALTER TABLE Cook ADD CONSTRAINT fk_userID FOREIGN KEY (userID) REFERENCES User(userID);

-- Creating indexes to optimize query performance

-- Recipe related indexes

CREATE INDEX idx_recipe_name ON Recipe(name);

CREATE INDEX idx_recipe_cuisine ON Recipe(cuisineID);

CREATE INDEX idx_recipe_difficulty ON Recipe(difficultyLevel);

-- Ingredient index for better join performance

CREATE INDEX idx_ingredient_foodgroup ON Ingredient(foodGroupID);

-- Cook table indexes for quicker searches

CREATE INDEX idx_cook_lastname ON Cook(lastName);

CREATE INDEX idx_cook_cuisine ON Cook(expertiseCuisineID);

-- Equipment and Section indexes for performance

CREATE INDEX idx_equipment_name ON Equipment(name);

CREATE INDEX idx_section_name ON Section(name);

-- for query 8

CREATE INDEX idx_recipe_cook_episode ON RecipeCook(episodeID);

CREATE INDEX idx_recipe_equipment_recipe ON RecipeEquipment(recipeID);

CREATE INDEX idx_episode_year ON Episode(year);

-- for query 6

-- Ensure indexes on relevant columns

CREATE INDEX idx_recipeTag_recipeID_tagID ON RecipeTag(recipeID, tagID);

CREATE INDEX idx_recipeTag_tagID ON RecipeTag(tagID);

CREATE INDEX idx_tag_name ON Tag(name);

CREATE INDEX idx_recipe_recipeID ON Recipe(recipeID);

CREATE INDEX idx_recipeSection_recipeID ON RecipeSection(recipeID);

```

5) DML script

-- Inserting data into the Cuisine table

INSERT INTO Cuisine (name) VALUES

('Italian'),

('French'),

('Japanese'),

('Chinese'),

('Mexican'),('Spanish'),

('Thai'),

('Indian'),

('Vietnamese'),

('Brazilian'),

('Moroccan'),

('Turkish'),

('Greek'),

('Lebanese'),

('Russian'),

('German'),

('Swedish'),

('Norwegian'),

('Finnish'),

('Polish'),

('South African'),

('Ethiopian'),

('Korean'),

('Filipino'),

('Cuban'),

('Peruvian'),

('Argentinian'),

('Chilean'),

('Colombian'),

('Australian');

-- Inserting data into the FoodGroup table

INSERT INTO FoodGroup (name, description) VALUES

('Dairy', 'Products made from milk'),

('Vegetables', 'All types of vegetables'),

('Fruits', 'Fresh fruits'),

('Grains', 'Wheat, rice, oats, or barley products'),

('Meat', 'All types of meat'),

('Nuts', 'Various kinds of nuts and seeds'),
 ('Legumes', 'All types of beans and peas'),
 ('Poultry', 'Chicken, turkey, and other birds'),
 ('Fish', 'Freshwater and saltwater fish'),
 ('Seafood', 'Shellfish and other sea creatures'),
 ('Confectionery', 'Sweets and candies'),
 ('Baked Goods', 'Breads, pastries, and other baked items'),
 ('Spices and Herbs', 'Seasonings from plants'),
 ('Beverages', 'Drinks excluding water'),
 ('Oils and Fats', 'Cooking oils and solid fats'),
 ('Root Vegetables', 'Vegetables growing underground'),
 ('Leafy Greens', 'Edible plant leaves'),
 ('Cruciferous', 'Broccoli, cabbage, and related vegetables'),
 ('Squashes', 'Pumpkin, zucchini and other squashes'),
 ('Mushrooms', 'Edible fungi'),
 ('Tubers', 'Potatoes and similar starchy vegetables'),
 ('Citrus Fruits', 'Oranges, lemons, limes, etc.'),
 ('Stone Fruits', 'Peaches, plums, cherries, etc.'),
 ('Berries', 'Small, pulpy fruits'),
 ('Melons', 'Watermelon, cantaloupe, etc.'),
 ('Exotic Fruits', 'Durian, dragon fruit, etc.'),
 ('Pasta and Noodles', 'All forms of pasta and noodles'),
 ('Ready-to-Eat', 'Pre-cooked meals'),
 ('Sauces and Dips', 'Condiments for flavoring'),
 ('Dairy Alternatives', 'Plant-based milk and cheese'),
 ('Gluten-Free', 'Foods without gluten'),
 ('Sugar-Free', 'Foods without added sugars'),
 ('Low-Carb', 'Foods low in carbohydrates'),
 ('High-Protein', 'Foods high in protein'),
 ('Whole Grain', 'Foods made from whole grain');

-- Inserting data into the Episode table

INSERT INTO Episode (title, airDate, season, year) VALUES

('2024 Season Finale', '2024-03-01', 4, 2024),
 ('2024 Episode 9', '2024-02-20', 4, 2024),
 ('2024 Episode 8', '2024-02-10', 4, 2024),
 ('2024 Episode 7', '2024-02-01', 4, 2024),
 ('2024 Episode 6', '2024-01-20', 4, 2024),
 ('2024 Episode 5', '2024-01-10', 4, 2024),
 ('2024 Episode 4', '2024-01-01', 4, 2024),
 ('2024 Episode 3', '2024-01-01', 4, 2024),

('2024 Episode 2', '2024-01-01', 4, 2024),
('2024 Season Opener', '2024-01-01', 4, 2024),
('2023 Season Finale', '2023-03-01', 3, 2023),
('2023 Episode 9', '2023-02-20', 3, 2023),
('2023 Episode 8', '2023-02-10', 3, 2023),
('2023 Episode 7', '2023-02-01', 3, 2023),
('2023 Episode 6', '2023-01-20', 3, 2023),
('2023 Episode 5', '2023-01-10', 3, 2023),
('2023 Episode 4', '2023-01-01', 3, 2023),
('2023 Episode 3', '2023-01-01', 3, 2023),
('2023 Episode 2', '2023-01-01', 3, 2023),
('2023 Season Opener', '2023-01-01', 3, 2023),
('2022 Season Finale', '2022-03-01', 2, 2022),
('2022 Episode 9', '2022-02-20', 2, 2022),
('2022 Episode 8', '2022-02-10', 2, 2022),
('2022 Episode 7', '2022-02-01', 2, 2022),
('2022 Episode 6', '2022-01-20', 2, 2022),
('2022 Episode 5', '2022-01-10', 2, 2022),
('2022 Episode 4', '2022-01-01', 2, 2022),
('2022 Episode 3', '2022-01-01', 2, 2022),
('2022 Episode 2', '2022-01-01', 2, 2022),
('2022 Season Opener', '2022-01-01', 2, 2022),
('2021 Season Finale', '2021-03-01', 1, 2021),
('2021 Episode 9', '2021-02-20', 1, 2021),
('2021 Episode 8', '2021-02-10', 1, 2021),
('2021 Episode 7', '2021-02-01', 1, 2021),
('2021 Episode 6', '2021-01-20', 1, 2021),
('2021 Episode 5', '2021-01-10', 1, 2021),
('2021 Episode 4', '2021-01-01', 1, 2021),
('2021 Episode 3', '2021-01-01', 1, 2021),
('2021 Episode 2', '2021-01-01', 1, 2021),
('2021 Season Opener', '2021-01-01', 1, 2021),
('2020 Season Finale', '2020-03-01', 10, 2020),
('2020 Episode 9', '2020-02-20', 10, 2020),
('2020 Episode 8', '2020-02-10', 10, 2020),
('2020 Episode 7', '2020-02-01', 10, 2020),
('2020 Episode 6', '2020-01-20', 10, 2020),
('2020 Episode 5', '2020-01-10', 10, 2020),
('2020 Episode 4', '2020-01-01', 10, 2020),
('2020 Episode 3', '2020-01-01', 10, 2020),
('2020 Episode 2', '2020-01-01', 10, 2020),

('2020 Season Opener', '2020-01-01', 10, 2020);

-- Inserting data into the Equipment table

INSERT INTO Equipment (name, instructions) VALUES

('Oven', 'Used for baking or roasting'),

('Blender', 'Used to mix, puree, or emulsify food'),

('Knife', 'Used for cutting ingredients'),

('Saucepan', 'Used for cooking over direct heat'),

('Mixing Bowl', 'Used for combining ingredients'),

('Food Processor', 'Used to chop, slice, shred, grind, and puree different types of food'),

('Grill', 'Used for grilling foods outdoors or indoors'),

('Slow Cooker', 'Used for simmering at a lower temperature for long periods'),

('Pressure Cooker', 'Used to cook food quickly under steam pressure'),

('Microwave', 'Used for heating and cooking foods quickly'),

('Toaster', 'Used for toasting bread'),

('Coffee Maker', 'Used to brew coffee'),

('Espresso Machine', 'Used to make espresso and other coffee beverages'),

('Juicer', 'Used for extracting juice from fruits and vegetables'),

('Deep Fryer', 'Used for deep frying food in oil'),

('Wok', 'Used for stir frying and other Asian cooking techniques'),

('Steaming Basket', 'Used for steaming food over boiling water'),

('Mortar and Pestle', 'Used for crushing and grinding herbs and spices'),

('Pasta Maker', 'Used to make homemade pasta'),

('Ice Cream Maker', 'Used to churn ice cream mixture while cooling it'),

('Sushi Mat', 'Used for rolling sushi rolls'),

('Cheese Grater', 'Used for grating cheese and other foods'),

('Mandoline', 'Used for slicing and cutting vegetables and fruits'),

('Bread Machine', 'Used for making bread'),

('Pizza Stone', 'Used for baking pizzas with a crispy crust'),

('Salad Spinner', 'Used to wash and remove excess water from salad greens'),

('Meat Grinder', 'Used for grinding meat'),

('Rice Cooker', 'Used to cook rice perfectly'),

('Dutch Oven', 'Used for slow cooking, braising, soups, and stews'),

('Griddle', 'Used for cooking pancakes, eggs, and other griddle foods'),

('Panini Press', 'Used for making pressed sandwiches'),

('Electric Mixer', 'Used for mixing, beating, and whipping'),

('Spatula', 'Used for lifting, flipping, or spreading'),

('Ladle', 'Used for serving soups and stews'),

('Colander', 'Used for draining water from pasta or washed vegetables'),

('Peeler', 'Used for peeling fruits and vegetables'),

```
('Chopping Board', 'Used as a cutting surface for food preparation'),  
( 'Cake Mold', 'Used for baking cakes in specific shapes'),  
( 'Garlic Press', 'Used for crushing garlic cloves efficiently'),  
( 'Herb Scissors', 'Used for cutting herbs neatly and efficiently');
```

```
-- Inserting data into the MealForm table
```

```
INSERT INTO MealForm (name) VALUES
```

```
('Breakfast'),  
( 'Lunch'),  
( 'Dinner'),  
( 'Snack'),  
( 'Brunch'),  
( 'Tea Time'),  
( 'Supper'),  
( 'Midnight Snack'),  
( 'Festive Dinner'),  
( 'Holiday Brunch'),  
( 'Buffet'),  
( 'Cocktail'),  
( 'Coffee Break'),  
( 'Picnic'),  
( 'Barbecue');
```

```
-- Inserting data into the Ingredient table
```

```
INSERT INTO Ingredient (name, foodGroupID, caloriesPer100g) VALUES
```

```
('Milk', 1, 42),  
( 'Tomato', 2, 18),  
( 'Apple', 3, 52),  
( 'Beef', 5, 250),  
( 'Rice', 4, 130),  
( 'Chicken', 8, 165),  
( 'Salmon', 9, 206),  
( 'Lettuce', 17, 15),  
( 'Cucumber', 16, 16),  
( 'Egg', 8, 155),  
( 'Almonds', 6, 575),  
( 'Walnuts', 6, 654),  
( 'Pork', 5, 242),  
( 'Tofu', 30, 76),  
( 'Lamb', 5, 294),  
( 'Carrot', 16, 41),
```


('Sweet Potato', 21, 86),
 ('Yogurt', 1, 59),
 ('Cheddar Cheese', 1, 402),
 ('Broccoli', 18, 34),
 ('Spinach', 17, 23),
 ('Orange', 22, 47),
 ('Banana', 3, 89),
 ('Strawberry', 24, 32),
 ('Blueberry', 24, 57),
 ('Maple Syrup', 29, 260),
 ('Olive Oil', 15, 884),
 ('Butter', 1, 717),
 ('Whole Wheat Bread', 12, 247),
 ('White Rice', 4, 130),
 ('Quinoa', 4, 120),
 ('Beet', 16, 43),
 ('Avocado', 3, 160),
 ('Coconut Oil', 15, 862),
 ('Peanut Butter', 6, 588),
 ('Garlic', 2, 149),
 ('Onion', 2, 40),
 ('Bell Pepper', 2, 20),
 ('Mushroom', 20, 22),
 ('Watermelon', 25, 30),
 ('Cherry', 23, 50),
 ('Asparagus', 2, 20),
 ('Peas', 7, 81),
 ('Corn', 4, 86),
 ('Cashews', 6, 553),
 ('Pasta', 27, 131),
 ('Venison', 5, 158),
 ('Turkey', 8, 189),
 ('Duck', 8, 337),
 ('Goose', 8, 371);

-- Inserting data into the Recipe table with recipeType

INSERT INTO Recipe (name, description, cuisineID, difficultyLevel, preparationTime, cookingTime, portionQuantities, baseIngredientID, fatPerServing, proteinPerServing, carbohydratesPerServing, caloriesPerServing, recipeType) VALUES

('Spaghetti Carbonara', 'A classic Italian pasta dish with eggs, cheese, bacon, and black pepper.', 1, 2, '00:20:00', '00:05:00', 4, 47, 25.4, 12.2, 52.6, 345, 'Cooking'),
 ('Tomato Soup', 'A simple yet delicious tomato soup.', 2, 1, '00:10:00', '00:30:00', 2, 2, 15.3, 4.6, 18.4, 10, 'Cooking'),
 ('Beef Stir Fry', 'Quick and flavorful Chinese beef stir fry with vegetables.', 4, 3, '00:15:00', '00:10:00', 3, 4, 30.1, 26.4, 44.5, 500, 'Cooking'),

('Tacos Al Pastor', 'Delicious Mexican street food style pork tacos.', 5, 4, '00:30:00', '00:20:00', 4, 13, 20.3, 25.0, 35.0, 425, 'Cooking'),

('Fettuccine Alfredo', 'Creamy pasta with cheese and butter.', 1, 2, '00:15:00', '00:10:00', 4, 47, 28.4, 14.2, 57.6, 420, 'Cooking'),

('Sushi Rolls', 'Traditional Japanese sushi with fish and rice.', 3, 3, '00:30:00', '00:00:00', 2, 9, 5.4, 22.2, 38.6, 290, 'Cooking'),

('Chocolate Cake', 'Rich chocolate layer cake.', 2, 4, '00:25:00', '00:35:00', 6, 40, 15.0, 6.0, 60.0, 350, 'Baking'),

('Paella', 'A traditional Spanish rice dish.', 6, 3, '00:20:00', '00:40:00', 6, 5, 10.2, 25.5, 55.3, 410, 'Cooking'),

('Pad Thai', 'Stir-fried Thai noodles.', 7, 3, '00:15:00', '00:15:00', 4, 31, 13.2, 18.0, 35.2, 320, 'Cooking'),

('Chicken Tikka Masala', 'Spiced Indian chicken in a creamy sauce.', 8, 4, '00:25:00', '00:40:00', 4, 8, 22.0, 35.0, 15.0, 485, 'Cooking'),

('Pho', 'Vietnamese noodle soup.', 9, 2, '00:20:00', '01:20:00', 4, 5, 6.0, 20.0, 40.0, 350, 'Cooking'),

('Feijoada', 'Brazilian black bean stew with pork.', 10, 4, '00:30:00', '02:00:00', 6, 13, 12.0, 18.0, 35.0, 375, 'Cooking'),

('Tagine', 'Slow-cooked Moroccan stew.', 11, 3, '00:15:00', '01:00:00', 4, 15, 9.0, 20.0, 25.0, 330, 'Cooking'),

('Shawarma', 'Middle Eastern seasoned meat wrap.', 14, 3, '00:20:00', '00:10:00', 4, 13, 11.0, 24.0, 35.0, 400, 'Cooking'),

('Borscht', 'Beet soup from Eastern Europe.', 15, 2, '00:10:00', '00:50:00', 4, 33, 5.0, 8.0, 16.0, 180, 'Cooking'),

('Wiener Schnitzel', 'Breaded and fried veal cutlet.', 16, 2, '00:10:00', '00:10:00', 4, 13, 18.0, 30.0, 12.0, 320, 'Cooking'),

('Köttbullar', 'Swedish meatballs in a creamy sauce.', 17, 2, '00:20:00', '00:30:00', 4, 5, 25.0, 20.0, 15.0, 300, 'Cooking'),

('Kimchi Jjigae', 'Korean kimchi stew.', 23, 3, '00:15:00', '00:30:00', 4, 14, 9.0, 12.0, 10.0, 170, 'Cooking'),

('Adobo', 'Filipino dish of marinated meat.', 24, 3, '00:10:00', '01:00:00', 4, 8, 20.0, 25.0, 12.0, 350, 'Cooking'),

('Ropa Vieja', 'Cuban shredded beef stew.', 25, 3, '00:20:00', '01:30:00', 4, 4, 15.0, 30.0, 15.0, 320, 'Cooking'),

('Ceviche', 'Peruvian fresh fish marinated in citrus.', 26, 2, '00:20:00', '00:00:00', 4, 7, 5.0, 22.0, 8.0, 150, 'Cooking'),

('Parrillada', 'Argentinian mixed grilled meats.', 27, 4, '00:30:00', '01:00:00', 6, 4, 30.0, 45.0, 0.0, 540, 'Cooking'),

('Pastel de Choclo', 'Chilean corn pie with meat filling.', 28, 4, '00:40:00', '00:45:00', 6, 5, 18.0, 25.0, 50.0, 500, 'Cooking'),

('Ajiaco', 'Colombian chicken and potato soup.', 29, 3, '00:20:00', '00:45:00', 4, 8, 10.0, 18.0, 25.0, 290, 'Cooking'),

('Lamingtons', 'Australian squares of sponge cake coated in chocolate.', 30, 2, '00:15:00', '00:30:00', 12, 40, 10.0, 5.0, 50.0, 310, 'Baking'),

('Souvlaki', 'Greek skewered and grilled meat.', 13, 2, '00:15:00', '00:15:00', 4, 8, 10.0, 35.0, 3.0, 265, 'Cooking'),

('Moussaka', 'Layered Greek casserole with eggplant and meat.', 13, 4, '00:20:00', '01:00:00', 6, 5, 22.0, 18.0, 30.0, 370, 'Cooking'),

('Falafel', 'Middle Eastern fried chickpea balls.', 14, 2, '00:30:00', '00:05:00', 4, 30, 15.0, 9.0, 20.0, 290, 'Cooking'),

('Pierogi', 'Polish dumplings stuffed with various fillings.', 20, 3, '00:30:00', '00:20:00', 4, 1, 10.0, 12.0, 40.0, 310, 'Cooking'),

('Bunny Chow', 'South African fast food dish consisting of a hollowed-out loaf of bread filled with curry.', 21, 4, '00:20:00', '01:00:00', 4, 8, 20.0, 25.0, 55.0, 450, 'Cooking'),

('Doro Wat', 'Ethiopian spicy chicken stew.', 22, 4, '00:30:00', '02:00:00', 4, 8, 15.0, 25.0, 10.0, 300, 'Cooking'),

('Risotto', 'Creamy Italian rice dish.', 1, 3, '00:10:00', '00:25:00', 4, 30, 14.2, 8.3, 38.4, 320, 'Cooking'),

('Bouillabaisse', 'French seafood stew.', 2, 4, '00:20:00', '00:45:00', 4, 9, 12.0, 22.0, 10.0, 280, 'Cooking'),

('Okonomiyaki', 'Japanese savory pancake.', 3, 2, '00:10:00', '00:15:00', 2, 1, 9.2, 12.1, 29.3, 235, 'Cooking'),

('Kung Pao Chicken', 'Spicy, stir-fried Chinese dish with chicken.', 4, 3, '00:15:00', '00:10:00', 2, 8, 17.0, 24.0, 12.0, 290, 'Cooking'),

('Enchiladas', 'Corn tortillas rolled around a filling and covered with chili sauce.', 5, 3, '00:25:00', '00:30:00', 4, 1, 18.3, 14.0, 38.1, 350, 'Cooking'),

('Gazpacho', 'Cold Spanish tomato soup.', 6, 1, '00:15:00', '00:00:00', 4, 2, 5.3, 2.2, 18.6, 88, 'Cooking'),

('Curry Chicken', 'Spicy Indian chicken curry.', 8, 3, '00:20:00', '00:40:00', 4, 8, 12.0, 25.0, 15.0, 270, 'Cooking'),

('Banh Mi', 'Vietnamese sandwich that features a combination of meats.', 9, 2, '00:15:00', '00:05:00', 4, 8, 9.0, 15.0, 30.0, 270, 'Cooking'),

('Feijoada', 'Traditional Brazilian black bean stew with pork.', 10, 3, '00:30:00', '02:00:00', 6, 13, 15.0, 28.0, 40.0, 420, 'Cooking'),

('Harira', 'Moroccan soup typically eaten during Ramadan.', 11, 3, '00:15:00', '01:00:00', 4, 13, 6.0, 18.0, 20.0, 250, 'Cooking'),

('Lamb Gyro', 'Greek dish made from lamb cooked on a vertical rotisserie.', 13, 2, '00:20:00', '00:15:00', 4, 15, 10.0, 22.0, 24.0, 310, 'Cooking'),

('Chicken Shawarma', 'Lebanese wrap of chicken cut into thin slices.', 14, 2, '00:15:00', '00:10:00', 4, 8, 8.0, 26.0, 20.0, 290, 'Cooking'),

('Blini', 'Traditional Russian pancakes.', 15, 1, '00:10:00', '00:20:00', 6, 1, 5.0, 6.0, 30.0, 210, 'Baking'),

('Bratwurst', 'German sausage made from pork, beef, or veal.', 16, 1, '00:05:00', '00:10:00', 3, 13, 25.0, 14.0, 2.0, 280, 'Cooking'),

('Smörgåstårta', 'Swedish sandwich cake.', 17, 3, '00:30:00', '00:00:00', 8, 6, 18.0, 12.0, 42.0, 390, 'Baking'),

('Bibimbap', 'Korean dish of rice with mixed vegetables.', 23, 2, '00:20:00', '00:20:00', 2, 35, 12.0, 16.0, 55.0, 370, 'Cooking'),

('Adobo', 'Filipino meat stew.', 24, 3, '00:10:00', '01:00:00', 4, 13, 20.0, 24.0, 12.0, 350, 'Cooking'),

('Arroz con Pollo', 'Traditional Cuban dish of rice with chicken.', 25, 2, '00:15:00', '00:35:00', 4, 8, 10.0, 20.0, 45.0, 360, 'Cooking'),

('Causa', 'Peruvian layered potato dish.', 26, 2, '00:30:00', '00:00:00', 4, 21, 8.0, 6.0, 25.0, 220, 'Cooking'),

('Empanadas', 'Argentinian stuffed pastry.', 27, 3, '00:25:00', '00:20:00', 6, 13, 15.0, 10.0, 20.0, 250, 'Baking');

-- Inserting data into the Tag table

INSERT INTO Tag (name) VALUES

('Quick Meal'),

('Low Fat'),

('High Protein'),

('Vegetarian'),

('Vegan'),

('Brunch'),

('Cold Dish'),

('Holiday Special'),

('Family Friendly'),

('Easy Prep'),

('Gluten-Free'),

('Dairy-Free'),

('Nut-Free'),

('Paleo'),

('Keto'),

('Heart Healthy'),

('Low Sodium'),

('Low Sugar'),

('High Fiber'),

('Seasonal'),

('Spicy'),

('Comfort Food'),

('Kid-Friendly'),

('Gourmet'),

('Budget-Friendly'),

('Breakfast'),

('Lunch Special'),

('Dinner Option'),

('Snack'),

('Dessert');

-- Inserting data into the RecipeTag linking table

INSERT INTO RecipeTag (recipeID, tagID) VALUES

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-- Inserting data into the RecipeEquipment linking table
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INSERT INTO RecipeEquipment (recipeID, equipmentID) VALUES
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-- Inserting data into the Cook table

INSERT INTO Cook (firstName, lastName, mobile, dateOfBirth, age, yearsOfExperience, expertiseCuisineID, professionalTrainingClassification) VALUES

('Gordon', 'Ramsay', '1234567890', '1966-11-08', 24, 3, 1, 'chef cook'),
 ('Christine', 'Ha', '1234567891', '1979-05-09', 41, 15, 4, 'assistant chef cook'),
 ('Enrique', 'Olvera', '1234567892', '1976-04-15', 25, 5, 5, 'chef cook'),
 ('Mina', 'Kwon', '1234567893', '1985-03-22', 38, 12, 3, 'chef cook'),
 ('Alex', 'Mercer', '1234567894', '1990-07-14', 33, 8, 6, 'assistant chef cook'),
 ('Laila', 'El-Haddad', '1234567895', '1982-11-30', 40, 18, 14, 'chef cook'),
 ('Hiro', 'Tanaka', '1234567896', '1974-02-05', 49, 25, 3, '1st cook'),
 ('Anna', 'Schmidt', '1234567897', '1988-12-12', 34, 10, 16, '2nd cook'),
 ('Raj', 'Singh', '1234567898', '1979-04-18', 44, 20, 8, 'chef cook'),
 ('Isabella', 'Moretti', '1234567899', '1992-09-09', 31, 7, 1, '3rd cook'),
 ('Thiago', 'Santos', '1234567800', '1983-01-15', 40, 15, 10, 'chef cook'),
 ('Lucy', 'Armstrong', '1234567801', '1976-06-20', 47, 22, 2, 'assistant chef cook'),
 ('Yasmin', 'Chaudhry', '1234567802', '1995-03-04', 28, 4, 23, '3rd cook'),

('Ella', 'Foster', '1234567900', '2002-05-20', 21, 2, 15, '3rd cook'),
 ('Charles', 'Jones', '1234567901', '2000-10-15', 23, 1, 7, '3rd cook'),
 ('Beatrice', 'Miller', '1234567902', '1955-09-08', 68, 45, 12, 'chef cook'),
 ('Jorge', 'Vasquez', '1234567903', '1960-03-01', 63, 40, 27, 'chef cook'),
 ('Nina', 'Patel', '1234567904', '1998-08-25', 25, 3, 11, '2nd cook'),
 ('Oliver', 'Thompson', '1234567905', '1996-06-12', 27, 5, 22, '2nd cook'),
 ('Irene', 'Ko', '1234567906', '1948-12-15', 75, 50, 3, '1st cook'),
 ('Martin', 'Clark', '1234567907', '1958-02-22', 65, 40, 9, 'assistant chef cook'),
 ('Zoe', 'Li', '1234567908', '2004-07-30', 19, 1, 13, '3rd cook'),
 ('Samuel', 'Black', '1234567909', '1949-11-09', 74, 54, 5, 'chef cook'),
 ('Amelia', 'Brown', '1234567910', '1995-04-18', 28, 6, 17, '2nd cook'),
 ('Harry', 'Wilson', '1234567911', '1990-12-05', 33, 8, 19, 'assistant chef cook'),
 ('Mia', 'Roberts', '1234567912', '1987-07-22', 36, 12, 21, '1st cook'),
 ('Noah', 'Taylor', '1234567913', '2001-01-15', 22, 1, 2, '3rd cook'),
 ('Sophia', 'Lee', '1234567914', '1965-03-09', 58, 35, 25, 'chef cook'),
 ('Liam', 'White', '1234567915', '1975-08-30', 48, 23, 18, '1st cook'),
 ('Emily', 'Harris', '1234567916', '1985-11-12', 38, 14, 20, 'chef cook'),
 ('Jacob', 'Martin', '1234567917', '2003-05-19', 20, 2, 24, '3rd cook'),
 ('Isabella', 'Garcia', '1234567918', '1959-09-25', 64, 40, 14, 'assistant chef cook'),
 ('Ethan', 'Davis', '1234567919', '1945-02-14', 78, 55, 6, 'chef cook'),
 ('Madison', 'Evans', '1234567920', '1999-10-09', 24, 4, 8, '2nd cook'),
 ('Logan', 'Wilson', '1234567921', '1967-12-31', 56, 32, 26, 'chef cook'),
 ('Ella', 'Anderson', '1234567922', '2005-07-08', 18, 0, 16, '3rd cook'),
 ('James', 'Thomas', '1234567923', '2002-03-27', 21, 2, 28, '3rd cook'),
 ('Charlotte', 'Moore', '1234567924', '1982-01-26', 41, 18, 10, '1st cook');

-- Inserting data into the RecipeCook table

INSERT INTO RecipeCook (recipeID, cookID, episodeID) VALUES

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-- Inserting data into the Judge table

INSERT INTO Judge (firstName, lastName, expertise) VALUES

('Alice', 'Wong', 'Italian Cuisine'),
 ('Bob', 'Johnson', 'Chinese Cuisine'),
 ('Clara', 'Smith', 'Mexican Cuisine'),
 ('Diane', 'Lee', 'Japanese Cuisine'),
 ('Mark', 'Evans', 'Indian Cuisine'),
 ('Sophia', 'Martinez', 'French Cuisine'),
 ('Liam', 'Davis', 'Vegetarian Cuisine'),
 ('Emma', 'Thompson', 'Vegan Cuisine'),
 ('Noah', 'Wilson', 'Spanish Cuisine'),
 ('Olivia', 'Brown', 'Fusion Cuisine'),
 ('James', 'Garcia', 'Seafood Expertise'),
 ('Isabella', 'Rodriguez', 'Dessert Specialist'),
 ('Ethan', 'Martinez', 'Barbecue Specialist'),
 ('Charlotte', 'Kim', 'Korean Cuisine'),
 ('Mason', 'Lewis', 'Southern US Cuisine'),
 ('Ava', 'White', 'Gluten-Free Cuisine'),
 ('Lucas', 'Lopez', 'Italian Fine Dining'),
 ('Mia', 'Lee', 'Street Food Specialties'),
 ('Benjamin', 'Harris', 'Beverage and Cocktails Expert'),


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('Amelia', 'Martin', 'Traditional British Cuisine'),

('Oliver', 'Clark', 'Middle Eastern Cuisine'),

('Harper', 'Young', 'Raw and Natural Foods'),

('Elijah', 'King', 'Pastry and Baking Expert');

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-- Linking Cooks to Episodes and adding Scores (Ensure cookID, episodeID, judgeID align with your tables)

```
INSERT INTO CookRating (cookID, episodeID, judgeID, score) VALUES
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-- Inserting data into the Section table

INSERT INTO Section (name, description) VALUES

('Italian Delights', 'Classic Italian Recipes'),
 ('Comfort Food', 'All-time favorite comfort foods'),
 ('Quick Bites', 'Quick and easy recipes'),
 ('Easter sweets', 'Easter sweets ideal for the Easter table'),
 ('Mexican Fiesta', 'Spicy and flavorful Mexican dishes'),
 ('Asian Fusion', 'A blend of various Asian cuisines'),
 ('Healthy Choices', 'Nutritious and healthy recipes'),
 ('Dessert Heaven', 'Decadent desserts for every occasion'),
 ('Mediterranean Magic', 'Fresh and vibrant Mediterranean recipes'),
 ('Grill Master', 'Perfect recipes for the grill'),
 ('Holiday Feast', 'Recipes for festive holiday meals'),
 ('Seafood Spectacular', 'Delicious seafood dishes'),
 ('Vegetarian Wonders', 'Tasty vegetarian recipes'),
 ('Vegan Delights', 'Delicious vegan recipes'),
 ('Breakfast Bonanza', 'Hearty and healthy breakfast recipes'),
 ('Comfort Classics', 'All-time favorite comfort foods'),
 ('Baking Bliss', 'Recipes for cakes, cookies, and more'),
 ('Exotic Eats', 'Unique and exotic recipes from around the world'),
 ('Soup and Stew', 'Warm and comforting soup and stew recipes'),
 ('Appetizer Alley', 'Delicious appetizers and starters'),
 ('Kids Favorites', 'Recipes kids will love'),
 ('Party Time', 'Perfect recipes for parties and gatherings'),
 ('Slow Cooker', 'Recipes for the slow cooker'),
 ('Gluten-Free', 'Delicious gluten-free recipes'),
 ('Pasta Paradise', 'Various pasta dishes'),
 ('Salad Sensations', 'Fresh and creative salad recipes'),
 ('Southern Comfort', 'Classic Southern recipes'),
 ('BBQ Bliss', 'Barbecue recipes for all occasions'),

('One-Pot Wonders', 'Easy one-pot meals'),
 ('Finger Food', 'Tasty finger foods and snacks'),
 ('Breakfast Treats', 'Delicious breakfast recipes'),
 ('Holiday Treats', 'Festive holiday recipes'),
 ('Hearty Meals', 'Filling and satisfying meals'),
 ('Summer Favorites', 'Light and fresh summer recipes');

INSERT INTO RecipeSection (recipeID, sectionID) VALUES

(1, 5), -- Spaghetti Carbonara in Mexican Fiesta
 (1, 9), -- Spaghetti Carbonara in Mediterranean Magic
 (1, 17), -- Spaghetti Carbonara in Baking Bliss
 (1, 25), -- Spaghetti Carbonara in Pasta Paradise
 (2, 7), -- Tomato Soup in Healthy Choices
 (2, 13), -- Tomato Soup in Vegetarian Wonders
 (2, 20), -- Tomato Soup in Soup and Stew
 (2, 32), -- Tomato Soup in Hearty Meals
 (3, 6), -- Beef Stir Fry in Asian Fusion
 (3, 13), -- Beef Stir Fry in Vegetarian Wonders
 (3, 21), -- Beef Stir Fry in Kids Favorites
 (3, 28), -- Beef Stir Fry in Southern Comfort
 (4, 5), -- Tacos Al Pastor in Mexican Fiesta
 (4, 18), -- Tacos Al Pastor in Exotic Eats
 (4, 29), -- Tacos Al Pastor in BBQ Bliss
 (4, 34), -- Tacos Al Pastor in Summer Favorites
 (5, 1), -- Fettuccine Alfredo in Italian Delights
 (6, 6), -- Sushi Rolls in Asian Fusion
 (7, 8), -- Chocolate Cake in Dessert Heaven
 (8, 12), -- Paella in Seafood Spectacular
 (9, 6), -- Pad Thai in Asian Fusion
 (10, 10), -- Chicken Tikka Masala in Mediterranean Magic
 (11, 20), -- Pho in Soup and Stew
 (12, 30), -- Feijoada in One-Pot Wonders
 (13, 1), -- Tagine in Italian Delights
 (14, 6), -- Shawarma in Asian Fusion
 (15, 2), -- Borscht in Comfort Food
 (16, 29), -- Wiener Schnitzel in BBQ Bliss
 (17, 32), -- Köttbullar in Holiday Treats
 (18, 33), -- Kimchi Jjigae in Hearty Meals
 (19, 6), -- Adobo in Asian Fusion
 (20, 10), -- Ropa Vieja in Mediterranean Magic
 (21, 12), -- Ceviche in Seafood Spectacular

(22, 10),-- Parrillada in Mediterranean Magic

(23, 10),-- Pastel de Choclo in Mediterranean Magic

(24, 20),-- Ajiaco in Soup and Stew

(25, 8), -- Lamingtons in Dessert Heaven

(26, 1), -- Souvlaki in Italian Delights

(27, 1), -- Moussaka in Italian Delights

(28, 2), -- Falafel in Comfort Food

(29, 2), -- Pierogi in Comfort Food

(30, 2), -- Bunny Chow in Comfort Food

(31, 10),-- Doro Wat in Mediterranean Magic

(32, 1), -- Risotto in Italian Delights

(33, 12),-- Bouillabaisse in Seafood Spectacular

(34, 6), -- Okonomiyaki in Asian Fusion

(35, 6), -- Kung Pao Chicken in Asian Fusion

(36, 5), -- Enchiladas in Mexican Fiesta

(37, 13),-- Gazpacho in Vegetarian Wonders

(38, 10),-- Curry Chicken in Mediterranean Magic

(39, 6), -- Banh Mi in Asian Fusion

(40, 20),-- Feijoada in Soup and Stew

(41, 20),-- Harira in Soup and Stew

(42, 10),-- Lamb Gyro in Mediterranean Magic

(43, 10),-- Chicken Shawarma in Mediterranean Magic

(44, 2), -- Blini in Comfort Food

(45, 10),-- Bratwurst in Mediterranean Magic

(46, 10),-- Smörgåstårta in Mediterranean Magic

(47, 6), -- Bibimbap in Asian Fusion

(48, 20),-- Adobo in Soup and Stew

(49, 20),-- Arroz con Pollo in Soup and Stew

(50, 10),-- Causa in Mediterranean Magic

(51, 10),-- Empanadas in Mediterranean Magic;

-- Insert tips into the Tips table

INSERT INTO Tips (recipeID, tipText) VALUES

(1, 'Use fresh eggs for the best result.'),

(1, 'Grate the cheese just before using to keep it from clumping.'),

(1, 'Serve immediately to prevent the eggs from overcooking.'),

(2, 'Use ripe tomatoes for a richer flavor.'),

(2, 'Add a pinch of sugar to balance the acidity of the tomatoes.'),

(2, 'Store leftovers in the fridge for up to 3 days.'),

(3, 'Marinate the beef for at least 30 minutes.'),

(3, 'Cook the vegetables separately to avoid overcooking.'),

(3, 'Serve with steamed rice or noodles.'),

(4, 'Use corn tortillas for a more authentic taste.'),

(4, 'Marinate the pork overnight for deeper flavor.'),

(4, 'Top with fresh pineapple for a sweet contrast.'),

(5, 'Use freshly grated Parmesan for the best flavor.'),

(5, 'Cook the pasta al dente for the perfect texture.'),

(5, 'Reserve some pasta water to adjust the sauce consistency.'),

(6, 'Keep your knife wet to prevent rice from sticking.'),

(6, 'Use fresh fish for the best taste.'),

(6, 'Serve with soy sauce, wasabi, and pickled ginger.'),

(7, 'Use high-quality cocoa powder for a richer flavor.'),

(7, 'Let the cake cool completely before frosting.'),

(7, 'Store in an airtight container to keep it moist.'),

(8, 'Use saffron for an authentic taste.'),

(8, 'Let the rice sit for a few minutes before serving.'),

(8, 'Add seafood at the last minute to avoid overcooking.'),

(9, 'Soak the rice noodles in warm water until soft.'),

(9, 'Add crushed peanuts and lime juice before serving.'),

(9, 'Use tamarind paste for an authentic flavor.'),

(10, 'Marinate the chicken overnight for a richer flavor.'),

(10, 'Use heavy cream for a creamier sauce.'),

(10, 'Serve with naan bread or steamed rice.'),

(11, 'Use beef bones for a richer broth.'),

(11, 'Let the broth simmer for at least an hour.'),

(11, 'Serve with fresh herbs and lime wedges.'),

(12, 'Soak the black beans overnight.'),

(12, 'Cook on low heat for a few hours for the best flavor.'),

(12, 'Serve with rice and orange slices.'),

(13, 'Use a tagine pot for an authentic cooking method.'),

(13, 'Add preserved lemons for extra flavor.'),

(13, 'Serve with couscous or flatbread.'),

(14, 'Marinate the meat overnight for better flavor.'),

(14, 'Use a hot grill to get a nice char.'),

(14, 'Serve with garlic sauce and pickles.'),

(15, 'Use fresh beets for a vibrant color.'),

(15, 'Add a dollop of sour cream before serving.'),

(15, 'Serve with dark rye bread.'),

(16, 'Pound the veal cutlets to an even thickness.'),

(16, 'Use breadcrumbs for a crispy coating.'),

(16, 'Serve with lemon wedges and potato salad.'),

(17, 'Soak the breadcrumbs in milk for a softer texture.'),

(17, 'Use a mixture of pork and beef for the best flavor.'),

(17, 'Serve with lingonberry jam.'),

(18, 'Use well-fermented kimchi for the best flavor.'),

(18, 'Simmer the stew for at least 30 minutes.'),

(18, 'Serve with steamed rice.'),

(19, 'Marinate the meat for at least an hour.'),

(19, 'Use vinegar for a tangy flavor.'),

(19, 'Serve with steamed rice.'),

(20, 'Shred the beef finely for the best texture.'),

(20, 'Use a slow cooker for convenience.'),

(20, 'Serve with rice and fried plantains.'),

(21, 'Use fresh fish for the best flavor.'),

(21, 'Marinate the fish for at least 10 minutes.'),

(21, 'Serve with tortilla chips or on a tostada.'),

(22, 'Marinate the meats overnight for the best flavor.'),

(22, 'Use a variety of meats for a more interesting dish.'),

(22, 'Serve with chimichurri sauce.'),

(23, 'Use fresh corn for the best flavor.'),

(23, 'Let the pie cool slightly before serving.'),

(23, 'Serve with a green salad.'),

(24, 'Use a mix of different potatoes for texture.'),

(24, 'Add corn for extra flavor.'),

(24, 'Serve with capers and cream.'),

(25, 'Cut the cake into squares for easy serving.'),

(25, 'Coat each piece thoroughly with chocolate.'),

(25, 'Store in an airtight container to keep them fresh.'),

(26, 'Use wooden skewers for grilling.'),

(26, 'Marinate the meat for at least 30 minutes.'),

(26, 'Serve with pita bread and tzatziki.'),

(27, 'Layer the ingredients carefully for the best presentation.'),

(27, 'Use a béchamel sauce for a creamy texture.'),

(27, 'Serve with a green salad.'),

(28, 'Use dried chickpeas for the best texture.'),

(28, 'Fry until golden brown and crispy.'),

(28, 'Serve with hummus and pita bread.'),

(29, 'Use a variety of fillings for different flavors.'),

(29, 'Boil the pierogi until they float.'),

(29, 'Serve with sour cream and fried onions.'),

(30, 'Use a fresh loaf of bread for the best result.'),

(30, 'Fill with a flavorful curry.'),

(30, 'Serve with extra curry sauce on the side.'),

(31, 'Simmer the stew for a few hours for the best flavor.'),
(31, 'Use a mix of chicken parts for different textures.'),
(31, 'Serve with injera bread.'),
(32, 'Use arborio rice for a creamy texture.'),
(32, 'Add the broth gradually while stirring.'),
(32, 'Serve with freshly grated Parmesan.'),
(33, 'Use a mix of seafood for the best flavor.'),
(33, 'Add saffron for an authentic taste.'),
(33, 'Serve with crusty bread.'),
(34, 'Use fresh cabbage for a crispy texture.'),
(34, 'Cook the pancake on a hot griddle.'),
(34, 'Serve with a drizzle of okonomiyaki sauce.'),
(35, 'Use fresh chicken for the best flavor.'),
(35, 'Add peanuts for extra crunch.'),
(35, 'Serve with steamed rice.'),
(36, 'Use corn tortillas for the best texture.'),
(36, 'Top with cheese and bake until melted.'),
(36, 'Serve with sour cream and guacamole.'),
(37, 'Use ripe tomatoes for a rich flavor.'),
(37, 'Chill the soup before serving.'),
(37, 'Serve with crusty bread.'),
(38, 'Use fresh chicken for the best flavor.'),
(38, 'Simmer the sauce until thickened.'),
(38, 'Serve with basmati rice.'),
(39, 'Use a crusty baguette for the sandwich.'),
(39, 'Add pickled vegetables for extra flavor.'),
(39, 'Serve with fresh herbs.'),
(40, 'Soak the black beans overnight.'),
(40, 'Simmer the stew on low heat for the best flavor.'),
(40, 'Serve with rice and orange slices.'),
(41, 'Use fresh herbs for the best flavor.'),
(41, 'Simmer the soup for at least an hour.'),
(41, 'Serve with lemon wedges.'),
(42, 'Use lamb for a rich flavor.'),
(42, 'Marinate the meat overnight.'),
(42, 'Serve with tzatziki and pita bread.'),
(43, 'Use a vertical rotisserie for the best result.'),
(43, 'Marinate the chicken overnight.'),
(43, 'Serve with garlic sauce and pickles.'),
(44, 'Use fresh ingredients for the best flavor.'),
(44, 'Serve with sour cream and caviar.'),

(44, 'Store leftovers in the fridge for up to 3 days.'),

(45, 'Use fresh sausages for the best flavor.'),

(45, 'Grill the sausages until golden brown.'),

(45, 'Serve with mustard and sauerkraut.'),

(46, 'Layer the ingredients carefully.'),

(46, 'Chill the cake before serving.'),

(46, 'Serve with a side of pickles.'),

(47, 'Use well-fermented kimchi for the best flavor.'),

(47, 'Serve with a fried egg on top.'),

(47, 'Mix well before eating.'),

(48, 'Marinate the meat for at least an hour.'),

(48, 'Use vinegar for a tangy flavor.'),

(48, 'Serve with steamed rice.'),

(49, 'Use fresh chicken for the best flavor.'),

(49, 'Simmer until the chicken is fully cooked.'),

(49, 'Serve with rice and beans.'),

(50, 'Use a mix of yellow and purple potatoes.'),

(50, 'Layer the ingredients carefully.'),

(50, 'Serve chilled.'),

(51, 'Use fresh dough for the best texture.'),

(51, 'Fill with a variety of fillings.'),

(51, 'Serve with chimichurri sauce.');

-- Inserting steps into the Steps table

INSERT INTO Steps (recipeID, instruction, stepOrder) VALUES

(1, 'Boil water in a large pot.', 1),

(1, 'Cook the pasta until al dente.', 2),

(1, 'In a bowl, whisk the eggs and cheese.', 3),

(1, 'Cook the bacon until crispy, then add to the egg mixture.', 4),

(1, 'Drain the pasta and immediately mix with the egg and bacon mixture.', 5),

(1, 'Serve immediately with a sprinkle of black pepper.', 6),

(2, 'Heat olive oil in a large pot.', 1),

(2, 'Add chopped onions and garlic, and sauté until soft.', 2),

(2, 'Add tomatoes and cook until they break down.', 3),

(2, 'Add chicken broth and let the soup simmer for 20 minutes.', 4),

(2, 'Blend the soup until smooth.', 5),

(2, 'Serve hot with a garnish of fresh basil.', 6),

(3, 'Marinate the beef with soy sauce, garlic, and ginger.', 1),

(3, 'Heat oil in a wok over high heat.', 2),

(3, 'Stir-fry the beef until browned.', 3),

(3, 'Add vegetables and stir-fry until tender.', 4),

(3, 'Add stir-fry sauce and cook until heated through.', 5),

(3, 'Serve hot with steamed rice.', 6),

(4, 'Marinate the pork with spices and pineapple juice.', 1),

(4, 'Grill the pork until cooked through.', 2),

(4, 'Warm the tortillas on the grill.', 3),

(4, 'Assemble the tacos with pork, pineapple, onions, and cilantro.', 4),

(4, 'Serve with lime wedges.', 5),

(5, 'Boil water in a large pot.', 1),

(5, 'Cook the fettuccine until al dente.', 2),

(5, 'In a saucepan, melt butter and add heavy cream.', 3),

(5, 'Stir in Parmesan cheese until melted.', 4),

(5, 'Toss the pasta with the sauce.', 5),

(5, 'Serve with a sprinkle of black pepper.', 6),

(6, 'Cook the sushi rice according to package instructions.', 1),

(6, 'Season the rice with rice vinegar, sugar, and salt.', 2),

(6, 'Place a sheet of nori on a bamboo mat.', 3),

(6, 'Spread a thin layer of rice over the nori.', 4),

(6, 'Place the fish and vegetables on the rice.', 5),

(6, 'Roll the sushi tightly and cut into pieces.', 6),

(6, 'Serve with soy sauce, wasabi, and pickled ginger.', 7),

(7, 'Preheat the oven to 350°F (175°C).', 1),

(7, 'Grease and flour a 9-inch round pan.', 2),

(7, 'Mix the dry ingredients together in a bowl.', 3),

(7, 'In another bowl, mix the wet ingredients.', 4),

(7, 'Combine the wet and dry ingredients until smooth.', 5),

(7, 'Pour the batter into the pan and bake for 30 minutes.', 6),

(7, 'Let the cake cool before frosting.', 7),

(8, 'Heat olive oil in a large paella pan.', 1),

(8, 'Add chicken and cook until browned.', 2),

(8, 'Add chopped onions, bell peppers, and garlic.', 3),

(8, 'Stir in rice and cook for a few minutes.', 4),

(8, 'Add saffron and chicken broth.', 5),

(8, 'Add seafood and cook until the rice is done.', 6),

(8, 'Let the paella rest for a few minutes before serving.', 7),

(9, 'Soak rice noodles in warm water until soft.', 1),
(9, 'Heat oil in a wok over high heat.', 2),
(9, 'Add garlic and stir-fry for a few seconds.', 3),
(9, 'Add shrimp and cook until pink.', 4),
(9, 'Add eggs and scramble until cooked.', 5),
(9, 'Add noodles, tamarind paste, fish sauce, and sugar.', 6),
(9, 'Toss everything together and cook until heated through.', 7),
(9, 'Serve with crushed peanuts and lime wedges.', 8),

(10, 'Marinate chicken with yogurt and spices.', 1),
(10, 'Cook the chicken in a skillet until browned.', 2),
(10, 'In a separate pan, heat oil and sauté onions.', 3),
(10, 'Add tomato puree and cook until thickened.', 4),
(10, 'Stir in cream and simmer until the sauce is rich.', 5),
(10, 'Add chicken to the sauce and cook for a few more minutes.', 6),
(10, 'Serve with rice or naan bread.', 7),

(11, 'Char onions and ginger under a broiler.', 1),
(11, 'Simmer beef bones in water for several hours.', 2),
(11, 'Add charred onions, ginger, and spices to the broth.', 3),
(11, 'Cook rice noodles according to package instructions.', 4),
(11, 'Slice beef thinly and place in bowls.', 5),
(11, 'Pour hot broth over the beef and noodles.', 6),
(11, 'Serve with fresh herbs and lime wedges.', 7),

(12, 'Soak black beans overnight.', 1),
(12, 'Cook the beans with pork and spices.', 2),
(12, 'Simmer on low heat for several hours.', 3),
(12, 'Serve with rice and orange slices.', 4),

(13, 'Marinate meat with spices and olive oil.', 1),
(13, 'Heat oil in a tagine pot.', 2),
(13, 'Add onions and cook until soft.', 3),
(13, 'Add meat and cook until browned.', 4),
(13, 'Add vegetables and broth, and cover with a lid.', 5),
(13, 'Simmer until meat and vegetables are tender.', 6),
(13, 'Serve with couscous or bread.', 7),

(14, 'Marinate meat with spices and yogurt.', 1),
(14, 'Cook meat on a rotisserie or grill.', 2),

(14, 'Warm pita bread on the grill.', 3),

(14, 'Assemble the shawarma with meat, vegetables, and sauces.', 4),

(14, 'Serve with pickles and garlic sauce.', 5),

(15, 'Peel and grate the beets.', 1),

(15, 'Simmer the beets in broth until tender.', 2),

(15, 'Add vinegar and sugar to balance the flavors.', 3),

(15, 'Serve hot with a dollop of sour cream.', 4),

(16, 'Pound the veal cutlets to an even thickness.', 1),

(16, 'Dredge the cutlets in flour, egg, and breadcrumbs.', 2),

(16, 'Fry the cutlets in oil until golden brown.', 3),

(16, 'Serve with lemon wedges and potato salad.', 4),

(17, 'Soak breadcrumbs in milk.', 1),

(17, 'Mix ground meat with onions, spices, and soaked breadcrumbs.', 2),

(17, 'Form meatballs and fry until browned.', 3),

(17, 'Simmer meatballs in a creamy sauce.', 4),

(17, 'Serve with mashed potatoes or lingonberry jam.', 5),

(18, 'Cook pork and kimchi in a pot.', 1),

(18, 'Add tofu and broth, and bring to a boil.', 2),

(18, 'Simmer until flavors meld.', 3),

(18, 'Serve hot with steamed rice.', 4),

(19, 'Marinate meat with vinegar, soy sauce, and garlic.', 1),

(19, 'Simmer meat in the marinade until tender.', 2),

(19, 'Serve with steamed rice.', 3),

(20, 'Shred beef and cook with spices and tomatoes.', 1),

(20, 'Simmer until beef is tender.', 2),

(20, 'Serve with rice and fried plantains.', 3),

(21, 'Marinate fish in citrus juice.', 1),

(21, 'Mix fish with onions, cilantro, and chili peppers.', 2),

(21, 'Serve chilled with tortilla chips.', 3),

(22, 'Marinate meats with spices and herbs.', 1),

(22, 'Grill meats until cooked through.', 2),

(22, 'Serve with chimichurri sauce.', 3),

(23, 'Cook corn and grind into a paste.', 1),
(23, 'Layer meat and corn paste in a baking dish.', 2),
(23, 'Bake until golden brown.', 3),
(23, 'Serve with a green salad.', 4),

(24, 'Boil potatoes until tender.', 1),
(24, 'Layer potatoes with chicken and corn.', 2),
(24, 'Top with cream and capers.', 3),
(24, 'Serve chilled.', 4),

(25, 'Cut cake into squares.', 1),
(25, 'Coat each piece with chocolate.', 2),
(25, 'Roll in coconut flakes.', 3),
(25, 'Serve chilled.', 4),

(26, 'Marinate meat with lemon juice and oregano.', 1),
(26, 'Skewer and grill meat until cooked through.', 2),
(26, 'Serve with pita and tzatziki.', 3),

(27, 'Layer eggplant, potatoes, and meat sauce in a baking dish.', 1),
(27, 'Top with béchamel sauce.', 2),
(27, 'Bake until golden brown.', 3),
(27, 'Serve with a green salad.', 4),

(28, 'Soak chickpeas overnight.', 1),
(28, 'Grind chickpeas with herbs and spices.', 2),
(28, 'Form into balls and fry until golden brown.', 3),
(28, 'Serve with hummus and pita.', 4),

(29, 'Make dough and roll out thin.', 1),
(29, 'Fill with various fillings and fold into dumplings.', 2),
(29, 'Boil until they float.', 3),
(29, 'Serve with sour cream and fried onions.', 4),

(30, 'Hollow out a loaf of bread.', 1),
(30, 'Fill with curry.', 2),
(30, 'Serve with extra curry on the side.', 3),

(31, 'Cook chicken with onions and spices.', 1),
(31, 'Add broth and simmer until chicken is tender.', 2),
(31, 'Serve with injera.', 3),

(32, 'Cook rice with broth until creamy.', 1),

(32, 'Stir in cheese and butter.', 2),

(32, 'Serve with freshly grated Parmesan.', 3),

(33, 'Cook seafood with broth and spices.', 1),

(33, 'Add vegetables and simmer until tender.', 2),

(33, 'Serve with crusty bread.', 3),

(34, 'Mix cabbage with batter.', 1),

(34, 'Cook on a hot griddle.', 2),

(34, 'Top with sauce and bonito flakes.', 3),

(34, 'Serve immediately.', 4),

(35, 'Marinate chicken with soy sauce and spices.', 1),

(35, 'Cook chicken in a hot wok.', 2),

(35, 'Add peanuts and vegetables.', 3),

(35, 'Serve with steamed rice.', 4),

(36, 'Fill tortillas with meat and cheese.', 1),

(36, 'Roll up and place in a baking dish.', 2),

(36, 'Top with sauce and bake until bubbly.', 3),

(36, 'Serve with sour cream and guacamole.', 4),

(37, 'Blend tomatoes and peppers.', 1),

(37, 'Chill soup before serving.', 2),

(37, 'Serve with bread.', 3),

(38, 'Cook chicken with spices and tomatoes.', 1),

(38, 'Simmer until thickened.', 2),

(38, 'Serve with rice.', 3),

(39, 'Assemble sandwich with meat and pickled vegetables.', 1),

(39, 'Serve with fresh herbs.', 2),

(40, 'Soak beans overnight.', 1),

(40, 'Cook beans with pork and spices.', 2),

(40, 'Simmer until tender.', 3),

(40, 'Serve with rice.', 4),

(41, 'Cook meat with spices and chickpeas.', 1),

(41, 'Add broth and simmer until tender.', 2),

(41, 'Serve with bread.', 3),

(42, 'Marinate lamb with spices.', 1),

(42, 'Grill lamb until cooked through.', 2),

(42, 'Serve with pita and sauce.', 3),

(43, 'Marinate chicken with spices.', 1),

(43, 'Cook chicken on a rotisserie.', 2),

(43, 'Serve with garlic sauce.', 3),

(44, 'Mix ingredients for blini batter.', 1),

(44, 'Cook blini on a hot griddle.', 2),

(44, 'Serve with caviar.', 3),

(45, 'Grill sausages until cooked through.', 1),

(45, 'Serve with mustard.', 2),

(46, 'Layer ingredients for sandwich cake.', 1),

(46, 'Chill before serving.', 2),

(47, 'Cook rice and vegetables.', 1),

(47, 'Serve with a fried egg on top.', 2),

(48, 'Marinate meat with vinegar and soy sauce.', 1),

(48, 'Simmer meat until tender.', 2),

(48, 'Serve with rice.', 3),

(49, 'Cook chicken with rice and spices.', 1),

(49, 'Simmer until rice is cooked through.', 2),

(49, 'Serve with beans.', 3),

(50, 'Layer ingredients for causa.', 1),

(50, 'Chill before serving.', 2),

(51, 'Fill dough with meat and vegetables.', 1),

(51, 'Fry until golden brown.', 2),

(51, 'Serve with sauce.', 3);

-- Ensure the quantity column in RecipeIngredients table is VARCHAR to accommodate flexible quantities

ALTER TABLE RecipeIngredients MODIFY COLUMN quantity VARCHAR(50);

-- Inserting sample data to demonstrate clearly or less clearly defined quantities

INSERT INTO RecipeIngredients (recipeID, ingredientID, quantity) VALUES

(1, 47, '200 g'), -- Spaghetti Carbonara with 200 g of pasta

(1, 1, '100 g'), -- Spaghetti Carbonara with 100 g of cheese

(1, 13, '2 slices'), -- Spaghetti Carbonara with 2 slices of bacon

(1, 6, '2 eggs'), -- Spaghetti Carbonara with 2 eggs

(1, 2, 'some black pepper'), -- Spaghetti Carbonara with some black pepper

(2, 2, '4 cups'), -- Tomato Soup with 4 cups of tomatoes

(2, 37, '1 tbsp'), -- Tomato Soup with 1 tbsp of olive oil

(2, 35, '1 clove'), -- Tomato Soup with 1 clove of garlic

(2, 33, '1 onion'), -- Tomato Soup with 1 onion

(2, 9, '3 cups'), -- Tomato Soup with 3 cups of chicken broth

(2, 31, '1 pinch'), -- Tomato Soup with 1 pinch of sugar

(2, 8, 'some basil'), -- Tomato Soup with some basil

(3, 4, '300 g'), -- Beef Stir Fry with 300 g of beef

(3, 2, '2 cups'), -- Beef Stir Fry with 2 cups of vegetables

(3, 37, '2 tbsp'), -- Beef Stir Fry with 2 tbsp of soy sauce

(3, 35, '2 cloves'), -- Beef Stir Fry with 2 cloves of garlic

(3, 33, '1 tbsp'), -- Beef Stir Fry with 1 tbsp of ginger

(3, 27, 'some stir-fry sauce'), -- Beef Stir Fry with some stir-fry sauce

(3, 47, 'some steamed rice'), -- Beef Stir Fry with some steamed rice

(4, 13, '500 g'), -- Pork

(4, 2, '1 cup'), -- Pineapple

(4, 35, '1 onion'), -- Onion

(4, 31, '1 tbsp'), -- Vinegar

(4, 33, 'some tortillas'), -- Tortillas

(5, 47, '200 g'), -- Pasta

(5, 1, '100 g'), -- Cheese

(5, 37, '100 g'), -- Butter

(5, 2, 'some black pepper'), -- Black Pepper

(5, 15, '1 tbsp'), -- Olive Oil

(6, 47, '200 g'), -- Rice

(6, 37, '100 g'), -- Fish

(6, 2, 'some seaweed'), -- Seaweed

(6, 35, '1 cucumber'), -- Cucumber

(6, 33, '1 avocado'), -- Avocado

(6, 31, 'some soy sauce'), -- Soy Sauce

(7, 1, '200 g'), -- Flour

(7, 37, '100 g'), -- Cocoa Powder

(7, 6, '3 eggs'), -- Eggs

(7, 33, '200 g'), -- Sugar

(7, 31, '1 tsp'), -- Baking Powder

(8, 4, '300 g'), -- Chicken

(8, 47, '200 g'), -- Rice

(8, 37, '100 g'), -- Shrimp

(8, 33, '1 bell pepper'), -- Bell Pepper

(8, 31, '1 pinch'), -- Saffron

(8, 2, 'some peas'), -- Peas

(9, 47, '200 g'), -- Rice Noodles

(9, 37, '100 g'), -- Shrimp

(9, 33, '1 bell pepper'), -- Bell Pepper

(9, 35, '2 cloves'), -- Garlic

(9, 31, '2 tbsp'), -- Soy Sauce

(9, 2, 'some peanuts'), -- Peanuts

(10, 4, '300 g'), -- Chicken

(10, 37, '100 g'), -- Yogurt

(10, 33, '2 tomatoes'), -- Tomatoes

(10, 35, '2 cloves'), -- Garlic

(10, 31, '1 tbsp'), -- Ginger

(10, 2, 'some spices'), -- Spices

(11, 4, '300 g'), -- Beef

(11, 47, '200 g'), -- Rice Noodles

(11, 37, '2 onions'), -- Onion

(11, 33, '1 ginger'), -- Ginger

(11, 35, '2 cloves'), -- Garlic

(11, 31, 'some herbs'), -- Herbs

(12, 4, '300 g'), -- Pork

(12, 47, '200 g'), -- Black Beans

(12, 37, '100 g'), -- Sausage

(12, 33, '1 onion'), -- Onion

(12, 35, '2 cloves'), -- Garlic

(12, 31, 'some orange slices'), -- Orange Slices

(13, 4, '300 g'), -- Lamb

(13, 47, '200 g'), -- Vegetables

(13, 37, '100 g'), -- Olives

(13, 33, '1 lemon'), -- Lemon

(13, 35, '2 cloves'), -- Garlic

(13, 31, 'some spices'), -- Spices

(14, 4, '300 g'), -- Meat

(14, 37, '100 g'), -- Yogurt

(14, 33, '1 onion'), -- Onion

(14, 35, '2 cloves'), -- Garlic

(14, 31, '1 tbsp'), -- Lemon Juice

(14, 2, 'some pita bread'), -- Pita Bread

(15, 4, '300 g'), -- Beets

(15, 47, '200 g'), -- Vegetables

(15, 37, '2 potatoes'), -- Potatoes

(15, 33, '1 carrot'), -- Carrot

(15, 35, '2 cloves'), -- Garlic

(15, 31, 'some dill'), -- Dill

(16, 4, '300 g'), -- Veal

(16, 47, '200 g'), -- Breadcrumbs

(16, 37, '2 eggs'), -- Eggs

(16, 33, '1 lemon'), -- Lemon

(16, 35, '1 tbsp'), -- Flour

(16, 31, 'some butter'), -- Butter

(17, 4, '300 g'), -- Meat

(17, 47, '200 g'), -- Breadcrumbs

(17, 37, '100 ml'), -- Milk

(17, 33, '1 onion'), -- Onion

(17, 35, '2 cloves'), -- Garlic

(17, 31, 'some cream'), -- Cream

(18, 4, '300 g'), -- Pork

(18, 47, '200 g'), -- Kimchi

(18, 37, '100 g'), -- Tofu

(18, 33, '1 onion'), -- Onion

(18, 35, '2 cloves'), -- Garlic

(18, 31, 'some chili paste'), -- Chili Paste

(19, 4, '300 g'), -- Meat

(19, 47, '200 ml'), -- Vinegar

(19, 37, '200 ml'), -- Soy Sauce

(19, 33, '1 onion'), -- Onion

(19, 35, '2 cloves'), -- Garlic

(19, 31, 'some bay leaves'), -- Bay Leaves

(20, 4, '300 g'), -- Beef

(20, 47, '200 g'), -- Tomatoes

(20, 37, '100 g'), -- Peppers

(20, 33, '1 onion'), -- Onion

(20, 35, '2 cloves'), -- Garlic

(20, 31, 'some spices'), -- Spices

(21, 4, '300 g'), -- Fish

(21, 47, '200 ml'), -- Lime Juice

(21, 37, '100 g'), -- Onion

(21, 33, '2 tomatoes'), -- Tomato

(21, 35, '2 cloves'), -- Garlic

(21, 31, 'some cilantro'), -- Cilantro

(22, 4, '500 g'), -- Meat

(22, 47, '200 g'), -- Sausages

(22, 37, '100 g'), -- Vegetables

(22, 33, '2 lemons'), -- Lemon

(22, 35, '1 tbsp'), -- Olive Oil

(22, 31, 'some chimichurri sauce'), -- Chimichurri Sauce

(23, 4, '300 g'), -- Corn

(23, 47, '200 g'), -- Beef

(23, 37, '100 g'), -- Chicken

(23, 33, '2 eggs'), -- Eggs

(23, 35, '2 cloves'), -- Garlic

(23, 31, 'some raisins'), -- Raisins

(24, 4, '300 g'), -- Chicken

(24, 47, '200 g'), -- Potatoes

(24, 37, '100 g'), -- Corn

(24, 33, '1 onion'), -- Onion

(24, 35, '2 cloves'), -- Garlic

(24, 31, 'some capers'), -- Capers

(25, 4, '300 g'), -- Flour

(25, 47, '200 g'), -- Sugar

(25, 37, '100 g'), -- Cocoa

(25, 33, '2 eggs'), -- Eggs

(25, 35, '2 tbsp'), -- Butter

(25, 31, 'some coconut'), -- Coconut

(26, 4, '300 g'), -- Meat

(26, 47, '200 g'), -- Vegetables

(26, 37, '100 ml'), -- Olive Oil

(26, 33, '2 lemons'), -- Lemon

(26, 35, '2 cloves'), -- Garlic

(26, 31, 'some pita bread'), -- Pita Bread

(27, 4, '300 g'), -- Eggplant

(27, 47, '200 g'), -- Beef

(27, 37, '100 ml'), -- Milk

(27, 33, '2 onions'), -- Onion

(27, 35, '2 cloves'), -- Garlic

(27, 31, 'some cheese'), -- Cheese

(28, 4, '300 g'), -- Chickpeas

(28, 47, '200 g'), -- Herbs

(28, 37, '100 g'), -- Spices

(28, 33, '1 onion'), -- Onion

(28, 35, '2 cloves'), -- Garlic

(28, 31, 'some tahini'), -- Tahini

(29, 4, '300 g'), -- Flour

(29, 47, '200 g'), -- Potatoes

(29, 37, '100 g'), -- Cheese

(29, 33, '1 onion'), -- Onion

(29, 35, '2 cloves'), -- Garlic

(29, 31, 'some butter'), -- Butter

(30, 4, '300 g'), -- Bread

(30, 47, '200 g'), -- Meat

(30, 37, '100 g'), -- Vegetables

(30, 33, '2 onions'), -- Onion

(30, 35, '2 cloves'), -- Garlic

(30, 31, 'some curry powder'), -- Curry Powder

(31, 4, '300 g'), -- Chicken

(31, 47, '200 g'), -- Onions

(31, 37, '100 g'), -- Spices

(31, 33, '2 eggs'), -- Eggs

(31, 35, '2 cloves'), -- Garlic

(31, 31, 'some butter'), -- Butter

(32, 4, '300 g'), -- Rice

(32, 47, '200 ml'), -- Stock

(32, 37, '100 g'), -- Cheese

(32, 33, '1 onion'), -- Onion

(32, 35, '2 cloves'), -- Garlic

(32, 31, 'some butter'), -- Butter

(33, 4, '300 g'), -- Fish

(33, 47, '200 g'), -- Seafood

(33, 37, '100 ml'), -- Wine

(33, 33, '1 onion'), -- Onion

(33, 35, '2 cloves'), -- Garlic

(33, 31, 'some saffron'), -- Saffron

(34, 4, '300 g'), -- Flour

(34, 47, '200 g'), -- Cabbage

(34, 37, '100 ml'), -- Water

(34, 33, '2 eggs'), -- Eggs

(34, 35, '2 cloves'), -- Garlic

(34, 31, 'some sauce'), -- Sauce

(35, 4, '300 g'), -- Chicken

(35, 47, '200 g'), -- Peppers

(35, 37, '100 ml'), -- Soy Sauce

(35, 33, '1 onion'), -- Onion

(35, 35, '2 cloves'), -- Garlic

(35, 31, 'some peanuts'), -- Peanuts

(36, 4, '300 g'), -- Tortillas

(36, 47, '200 g'), -- Chicken

(36, 37, '100 g'), -- Cheese

(36, 33, '1 onion'), -- Onion

(36, 35, '2 cloves'), -- Garlic

(36, 31, 'some enchilada sauce'), -- Enchilada Sauce

(37, 4, '300 g'), -- Tomatoes

(37, 47, '200 g'), -- Cucumber

(37, 37, '100 ml'), -- Olive Oil

(37, 33, '1 bell pepper'), -- Bell Pepper

(37, 35, '2 cloves'), -- Garlic

(37, 31, 'some bread'), -- Bread

(38, 4, '300 g'), -- Chicken

(38, 47, '200 g'), -- Vegetables

(38, 37, '100 ml'), -- Coconut Milk

(38, 33, '1 onion'), -- Onion

(38, 35, '2 cloves'), -- Garlic

(38, 31, 'some curry powder'), -- Curry Powder

(39, 4, '300 g'), -- Bread

(39, 47, '200 g'), -- Meat

(39, 37, '100 g'), -- Pickled Vegetables

(39, 33, '1 cucumber'), -- Cucumber

(39, 35, '2 cloves'), -- Garlic

(39, 31, 'some cilantro'), -- Cilantro

(40, 4, '300 g'), -- Black Beans

(40, 47, '200 g'), -- Pork

(40, 37, '100 g'), -- Sausage

(40, 33, '1 onion'), -- Onion

(40, 35, '2 cloves'), -- Garlic

(40, 31, 'some bay leaves'), -- Bay Leaves

(41, 4, '300 g'), -- Lamb

(41, 47, '200 g'), -- Chickpeas

(41, 37, '100 g'), -- Lentils

(41, 33, '1 onion'), -- Onion

(41, 35, '2 cloves'), -- Garlic

(41, 31, 'some spices'), -- Spices

(42, 4, '300 g'), -- Lamb

(42, 47, '200 g'), -- Vegetables

(42, 37, '100 ml'), -- Yogurt

(42, 33, '2 lemons'), -- Lemon

(42, 35, '2 cloves'), -- Garlic

(42, 31, 'some pita bread'), -- Pita Bread

(43, 4, '300 g'), -- Chicken

(43, 47, '200 ml'), -- Yogurt

(43, 37, '100 g'), -- Vegetables

(43, 33, '1 onion'), -- Onion

(43, 35, '2 cloves'), -- Garlic

(43, 31, 'some spices'), -- Spices

(44, 4, '300 g'), -- Flour

(44, 47, '200 ml'), -- Milk

(44, 37, '100 g'), -- Butter

(44, 33, '2 eggs'), -- Eggs

(44, 35, '1 tsp'), -- Sugar

(44, 31, 'some caviar'), -- Caviar

(45, 4, '300 g'), -- Pork

(45, 47, '200 g'), -- Sausage Casing

(45, 37, '100 g'), -- Spices

(45, 33, '1 onion'), -- Onion

(45, 35, '2 cloves'), -- Garlic

(45, 31, 'some mustard'), -- Mustard

(46, 4, '300 g'), -- Bread

(46, 47, '200 g'), -- Meat

(46, 37, '100 g'), -- Vegetables

(46, 33, '1 cucumber'), -- Cucumber

(46, 35, '2 eggs'), -- Eggs

(46, 31, 'some mayonnaise'), -- Mayonnaise

(47, 4, '300 g'), -- Rice

(47, 47, '200 g'), -- Vegetables

(47, 37, '100 g'), -- Meat

(47, 33, '1 egg'), -- Egg

(47, 35, '2 cloves'), -- Garlic

(47, 31, 'some chili paste'), -- Chili Paste

(48, 4, '300 g'), -- Chicken

(48, 47, '200 ml'), -- Vinegar

(48, 37, '200 ml'), -- Soy Sauce

(48, 33, '1 onion'), -- Onion

(48, 35, '2 cloves'), -- Garlic

(48, 31, 'some bay leaves'), -- Bay Leaves

(49, 4, '300 g'), -- Chicken

(49, 47, '200 g'), -- Rice

(49, 37, '100 g'), -- Vegetables

(49, 33, '1 onion'), -- Onion

(49, 35, '2 cloves'), -- Garlic

(49, 31, 'some spices'), -- Spices

(50, 4, '300 g'), -- Potatoes

(50, 47, '200 g'), -- Meat

(50, 37, '100 g'), -- Vegetables

(50, 33, '1 avocado'), -- Avocado

(50, 35, '2 lemons'), -- Lemon

(50, 31, 'some mayonnaise'), -- Mayonnaise

(51, 4, '300 g'), -- Dough

(51, 47, '200 g'), -- Meat

(51, 37, '100 g'), -- Vegetables

(51, 33, '1 onion'), -- Onion

(51, 35, '2 cloves'), -- Garlic

(51, 31, 'some sauce'); -- Sauce

-- Images

INSERT INTO CuisinelImage (cuisineID, imageUrl, imageDescription) VALUES

('1', 'https://drive.google.com/uc?export=view&id=1x9dnxEvY9Tir70fiufmnilPoAtIm2ZDV', 'Delicious Italian Cuisine'),

('2', 'https://drive.google.com/uc?export=view&id=1x9rMszml1iX41sn4oTJil--SaPNNbAdM', 'Exquisite French Cuisine'),

('3', 'https://drive.google.com/uc?export=view&id=1xBG3VOyOT6_rwW2aGmlbbxDHRCacTXS2', 'Traditional Japanese Cuisine'),

('4', 'https://drive.google.com/uc?export=view&id=1xCQaO85AphFHGAYRAaDYCI6UOYlhhA9G', 'Authentic Chinese Cuisine'),

('5', 'https://drive.google.com/uc?export=view&id=1xEvBkdGa8VfV58uf559ITUusQPbsCRop', 'Spicy Mexican Cuisine'),

('6', 'https://drive.google.com/uc?export=view&id=1xGu2KzTjNHYWqAqIHQ0coSlejO7J9HwN', 'Flavorful Spanish Cuisine'),

('7', 'https://drive.google.com/uc?export=view&id=1xH8qWytaAaEI5SMf_tfKILwibBEHsdK-', 'Aromatic Thai Cuisine'),

('8', 'https://drive.google.com/uc?export=view&id=1xIcp2qfH4b3PAfNvnCDFFWOqu3j3vzFA', 'Spiced Indian Cuisine'),

('9', 'https://drive.google.com/uc?export=view&id=1xPJkpxvZcKvFUmFXQIXQuC4vau8O9Bb', 'Fresh Vietnamese Cuisine'),

('10', 'https://drive.google.com/uc?export=view&id=1xLz0RmcyJvHCgcqDyHish_HsXvoB4TK2', 'Hearty Brazilian Cuisine'),

('11', 'https://drive.google.com/uc?export=view&id=1xPyjz_WgQr5WkvV6f24bJaZLxKCrS6f', 'Flavor-Rich Moroccan Cuisine'),

('12', 'https://drive.google.com/uc?export=view&id=1xQ9VOHOCSvH_LQhRA6OU3taBBpYaFHYN', 'Delicious Turkish Cuisine'),

('13', 'https://drive.google.com/uc?export=view&id=1xRNVHrFGuSCD5oPthMUAK58A3JzsmoD_', 'Traditional Greek Cuisine'),

('14', 'https://drive.google.com/uc?export=view&id=1xRpG3ToYSwVXDSNBKli-zyIRMYNIiOH', 'Savory Lebanese Cuisine'),

('15', 'https://drive.google.com/uc?export=view&id=1xS8FYa4XxMQk4aQglu0Ghbx16DiEOAFA', 'Rich Russian Cuisine'),

('16', 'https://drive.google.com/uc?export=view&id=1xTbf8WUMcxoKUVmG6B6kaydM18U-0TPvz', 'Hearty German Cuisine'),

('17', 'https://drive.google.com/uc?export=view&id=1xUNUN6zgZGz8cgJbXYEDq-o3iOsyQhJa', 'Fresh Swedish Cuisine'),

('18', 'https://drive.google.com/uc?export=view&id=1xUXk27kG-Bf1FKs5K6J3k7Lavdu6hsUI', 'Authentic Norwegian Cuisine'),

('19', 'https://drive.google.com/uc?export=view&id=1xUluBB7xamSgQQLbGaO-3xx4BD3UI_wL', 'Traditional Finnish Cuisine'),

('20', 'https://drive.google.com/uc?export=view&id=1xXT6HR_ iyPfcBTHIFrEsqf13MjN3xWN', 'Classic Polish Cuisine'),
 ('21', 'https://drive.google.com/uc?export=view&id=1xY6BLwdVQmrjD-shd2_alz8mYnY_0nx', 'Flavorful South African Cuisine'),
 ('22', 'https://drive.google.com/uc?export=view&id=1xYgnogP5Kg70Y8mGTbX5Li9J8wd7xvus', 'Spiced Ethiopian Cuisine'),
 ('23', 'https://drive.google.com/uc?export=view&id=1xegH0DEI9GU5LiFtCf4SakqL6GQOO2T', 'Korean BBQ Cuisine'),
 ('24', 'https://drive.google.com/uc?export=view&id=1xiCGE6oT-vO4CjHhGpgbyR5A11N_WGq9', 'Traditional Filipino Cuisine'),
 ('25', 'https://drive.google.com/uc?export=view&id=1xkJfSDoHz4WbIBQ2Gpr2kpgi7G6bgvCk', 'Savory Cuban Cuisine'),
 ('26', 'https://drive.google.com/uc?export=view&id=1xn0cuSoNQ-_k3xhj_Mui-BuZe78SKIH', 'Colorful Peruvian Cuisine'),
 ('27', 'https://drive.google.com/uc?export=view&id=1xn4kBpLQoKlqum6J04W6xnJsKPQaWVwS', 'Hearty Argentinian Cuisine'),
 ('28', 'https://drive.google.com/uc?export=view&id=1xnYdBP_kWgjEP8Zk8UpEkZJDut8FBNRm', 'Flavor-Rich Chilean Cuisine'),
 ('29', 'https://drive.google.com/uc?export=view&id=1xoonykhEbmYZEHPsYExZrq-ynozX3uqe', 'Authentic Colombian Cuisine'),
 ('30', 'https://drive.google.com/uc?export=view&id=1xoyHbrMD4b-hNg8Mo-_2rYqbe_LOWI4z', 'Traditional Australian Cuisine');

INSERT INTO FoodGroupImage (foodgroupID, imageDescription, imageUrl) VALUES

('1', 'https://drive.google.com/uc?export=view&id=1zEOIt5166TPNy80z6fRsgM9yw1pCOVB7', 'Various Dairy Products'),
 ('2', 'https://drive.google.com/uc?export=view&id=1zGFcNOeJrct7h6twiXRQ6OpDcM_P6AVF', 'Fresh Vegetables'),
 ('3', 'https://drive.google.com/uc?export=view&id=1zGieGFYXilyaly4cXf60hUip2I7WqkMr', 'Assortment of Fresh Fruits'),
 ('4', 'https://drive.google.com/uc?export=view&id=1zInDfRWtgDA7E272vXvdfN2obSd4-RA-', 'Assorted Grains'),
 ('5', 'https://drive.google.com/uc?export=view&id=1zM-UNBiB80qK3ilRbLfmkiT5gEC8Epx1', 'Variety of Meat Cuts'),
 ('6', 'https://drive.google.com/uc?export=view&id=1zPJ_oH4e0HZMC4n9ZhrmXfuz4RhDp3Lw', 'Assorted Nuts and Seeds'),
 ('7', 'https://drive.google.com/uc?export=view&id=1zSOqhcWcaacIti36sDDGI0LkZTbmqaY', 'Mixed Legumes'),
 ('8', 'https://drive.google.com/uc?export=view&id=1zVY_sncXfRsoRlDoE1W-s9UpWQ84BMx_', 'Assorted Poultry'),
 ('9', 'https://drive.google.com/uc?export=view&id=1zXYskFb-lgvcRhfmtZZ9K01Cc66766fw', 'Various Fish'),
 ('10', 'https://drive.google.com/uc?export=view&id=1z_d8TSorT6jvYY5rOFLAEkUc977gBy3S', 'Assorted Seafood'),
 ('11', 'https://drive.google.com/uc?export=view&id=1za4mmH6kqrNmQgy_Evy2Bseg83hQYV6L', 'Assorted Sweets'),
 ('12', 'https://drive.google.com/uc?export=view&id=1zaM6rLBf6jNwQtblL7k1ZHCBv4NDVew', 'Variety of Baked Goods'),
 ('13', 'https://drive.google.com/uc?export=view&id=1zbRzjVPWtgKD6ne5j0uSiv7BRWFBWw5', 'Assorted Spices and Herbs'),
 ('14', 'https://drive.google.com/uc?export=view&id=1zbl4XsC0JlUkVpVDv433hI9S4xl-EAi', 'Various Beverages'),
 ('15', 'https://drive.google.com/uc?export=view&id=1zcGEm-aUhb0tKuD5N3UO7KWPWHXIDCgN', 'Different Cooking Oils and Fats'),
 ('16', 'https://drive.google.com/uc?export=view&id=1zcTlgKt1h-ita8c3UGAXnbCW6Zr63j-c', 'Root Vegetables'),
 ('17', 'https://drive.google.com/uc?export=view&id=1zd92Bv9yNOqmB17nlgmoSejWcxAoWp-X', 'Assorted Leafy Greens'),
 ('18', 'https://drive.google.com/uc?export=view&id=1zdGvcgANDTWF-zThNaCeDGXgnpY0fnXA', 'Assorted Cruciferous Vegetables'),
 ('19', 'https://drive.google.com/uc?export=view&id=1zdtYUTcKa3PjPDP24KtLYp9rlukAEG6e', 'Various Squashes'),
 ('20', 'https://drive.google.com/uc?export=view&id=1zdwTD6NS4SC4Jjir5m1s7KeVaZXigmA', 'Assorted Mushrooms'),
 ('21', 'https://drive.google.com/uc?export=view&id=1zg56wR67UQ-gff2IziO3KEFsYR994ez-', 'Various Tubers'),
 ('22', 'https://drive.google.com/uc?export=view&id=1zgnZAJkmWtmAgVxezWjvyu9kxq3m4mvm', 'Assorted Citrus Fruits'),
 ('23', 'https://drive.google.com/uc?export=view&id=1ziIQ7nHkof_sLf5cT6lNlYybvwde5qV', 'Assorted Stone Fruits'),
 ('24', 'https://drive.google.com/uc?export=view&id=1zjFTW30pFJJUbJTpSubHF-3y15VbJEo', 'Assorted Berries'),
 ('25', 'https://drive.google.com/uc?export=view&id=1znbOK5nLUP6tIs3lpaYyaO1OGTkgSP', 'Assorted Melons'),
 ('26', 'https://drive.google.com/uc?export=view&id=1zp1uN6Up81oEn6SPoVct4crnNX78bfqX', 'Assorted Exotic Fruits'),
 ('27', 'https://drive.google.com/uc?export=view&id=1zprGFuBzOM7fCFgX8aXH6wcMKEBmNOM6', 'Assorted Pasta and Noodles'),
 ('28', 'https://drive.google.com/uc?export=view&id=1zrG6Rx3W0UUrC1h7IT5m9TTFRoKJhloz', 'Various Ready-to-Eat Meals');

('29', 'https://drive.google.com/uc?export=view&id=1zskUoiyzFRtVgHPV-Wxq09ADOCrenpxY', 'Assorted Sauces and Dips'),
 ('30', 'https://drive.google.com/uc?export=view&id=1zsq938Jo6ETydiG8ClTJR0PIBF655zH', 'Various Dairy Alternatives'),
 ('31', 'https://drive.google.com/uc?export=view&id=1zy5QdkmkC5Au7MueN6UUNbwkAnAGIugu', 'Assorted Gluten-Free Foods'),
 ('32', 'https://drive.google.com/uc?export=view&id=1ppfQ7ZY-B3v79JqYef7qQ3HKQM6Kusrp', 'Assorted Sugar-Free Foods'),
 ('33', 'https://drive.google.com/uc?export=view&id=1-8Vlfb5sdl9zW8n1yH2yZM4-pX2ajhTW', 'Assorted Low-Carb Foods'),
 ('34', 'https://drive.google.com/uc?export=view&id=1-9Hp_83r-6QWBOLISAIh87DnqcqCxdt-', 'Assorted High-Protein Foods'),
 ('35', 'https://drive.google.com/uc?export=view&id=1-EeaHMMw1Q6upqUJLSsoi8Ayybk86C', 'Assorted Whole Grain Foods');

INSERT INTO EquipmentImage (equipmentID, imageUrl, imageDescription) VALUES

('1', 'https://drive.google.com/uc?export=view&id=1yMhmJ6VbkNJ3X7YqHTSpS8H7SExHSHu', 'Modern kitchen oven'),
 ('2', 'https://drive.google.com/uc?export=view&id=1yQnmZwSNQbXuu6rAQHJltcUPeE8mNEsN', 'High-speed blender'),
 ('3', 'https://drive.google.com/uc?export=view&id=1xsGdGtZafC51ccPab5RunutVBop_ZPjn', 'Sharp kitchen knife'),
 ('4', 'https://drive.google.com/uc?export=view&id=1xsOYYv-OTw_fmKj7EdciQVeSAMBXYIW4', 'Stainless steel saucepan'),
 ('5', 'https://drive.google.com/uc?export=view&id=1xso8EkQ_DyOIBhtalFmTPPhaOh5mys6_', 'Large mixing bowl for baking'),
 ('6', 'https://drive.google.com/uc?export=view&id=1xt0rOPbZthO31_9ojKZvGsTD-n89TLCx', 'Electric food processor'),
 ('7', 'https://drive.google.com/uc?export=view&id=1xu6e1-tM2JTEFXRNoHHYwb5JBsgzEd8J', 'Outdoor barbecue grill'),
 ('8', 'https://drive.google.com/uc?export=view&id=1xuiabCoyxli6UAQhy8p172oH4DmT1Seg', 'Programmable slow cooker'),
 ('9', 'https://drive.google.com/uc?export=view&id=1xuoHzoH9XLTcP54IHROqnLOGSB5ilPGI', 'Modern electric pressure cooker'),
 ('10', 'https://drive.google.com/uc?export=view&id=1xvokj4iUD2rJmHKh-hk3pwre8Kf_iMZE', 'Countertop microwave oven'),
 ('11', 'https://drive.google.com/uc?export=view&id=1xwYJ8i-pFkPgyGKpCM93JeBGg1lhN6X5', 'Two-slice toaster'),
 ('12', 'https://drive.google.com/uc?export=view&id=1xxADdeGXYDeqQXAUupZHAeP1LwUCu1er', 'Drip coffee maker'),
 ('13', 'https://drive.google.com/uc?export=view&id=1xyVMj_85V2rV6SBDsrpGyqO-fPft0hT', 'High-end espresso machine'),
 ('14', 'https://drive.google.com/uc?export=view&id=1xzn66dljFZ9AYWEZumK6M4Q6PNXOf', 'Electric citrus juicer'),
 ('15', 'https://drive.google.com/uc?export=view&id=1y-JpXNAUC7gfl3VieG-4FHYX5Ww-2bfb', 'Electric deep fryer'),
 ('16', 'https://drive.google.com/uc?export=view&id=1y1XbSSUS-vhFSQhPjX7TPNQkMcj_Bbzb', 'Carbon steel wok'),
 ('17', 'https://drive.google.com/uc?export=view&id=1y1sfSqjql7pkDtywWq-zPlx3UsYNqeU', 'Stainless steel steaming basket'),
 ('18', 'https://drive.google.com/uc?export=view&id=1y2JxJPtn4MwcWZGEDlHtxlpxQETBCgfl', 'Granite mortar and pestle'),
 ('19', 'https://drive.google.com/uc?export=view&id=1y2QQDPe83y-OEGSDJehSvH2MbMq_Xlm8', 'Manual pasta maker'),
 ('20', 'https://drive.google.com/uc?export=view&id=1y3LTSObLYigk4giF_y6ohX3KZjxVWfu', 'Electric ice cream maker'),
 ('21', 'https://drive.google.com/uc?export=view&id=1y53v5Wfwc8BVYZX2JfvdJmiA8wVNPmVu', 'Bamboo sushi rolling mat'),
 ('22', 'https://drive.google.com/uc?export=view&id=1y5Hsrk5YHruLSPqSAweIQRtrvp5Clibu', 'Stainless steel cheese grater'),
 ('23', 'https://drive.google.com/uc?export=view&id=1y8UagJK5_hrk9mK0OU_XpVevB2wBNPQS', 'Adjustable mandoline slicer'),
 ('24', 'https://drive.google.com/uc?export=view&id=1y8wpjerQN2A-3vAilToj1BCd98V1zFyd', 'Automatic bread maker'),
 ('25', 'https://drive.google.com/uc?export=view&id=1yDBaQjb5e8w1kC2KSvXzrgC9LkryvXeo', 'Cordierite pizza stone'),
 ('26', 'https://drive.google.com/uc?export=view&id=1yDKlxEr6W6u4zVzj2TbKDPbCrHff_q6O', 'Large salad spinner'),
 ('27', 'https://drive.google.com/uc?export=view&id=1yDVeCHDQxizYpJ6uFlxHdmthpn8hQ3', 'Electric meat grinder'),
 ('28', 'https://drive.google.com/uc?export=view&id=1yDxrQQ0Ifw79qx5uIJGii0wJ5Ork8r', 'Digital rice cooker'),
 ('29', 'https://drive.google.com/uc?export=view&id=1yE11PwoJX8oA_Gm4pZU-R6fzCyb6PWaa', 'Enameled cast iron Dutch oven'),
 ('30', 'https://drive.google.com/uc?export=view&id=1yE1V8TkrOJhYv5pglDP5-vYutzSnB7V9', 'Electric griddle'),
 ('31', 'https://drive.google.com/uc?export=view&id=1yF4doQuV43Plc3812xwoWzFtAtSg0kcZ', 'Countertop panini press'),
 ('32', 'https://drive.google.com/uc?export=view&id=1yFdZTQtPwm5PVqHMyKcH314yyd0jrcb', 'Stand mixer with attachments');

('33', 'https://drive.google.com/uc?export=view&id=1yGcTmImR2rVrI9LLTRNikEggsVCTd_L', 'Heat-resistant silicone spatula'),
 ('34', 'https://drive.google.com/uc?export=view&id=1yHGQfQk5hErp7UuHPEj1ZJ-Lfpsnz0UI', 'Stainless steel soup ladle'),
 ('35', 'https://drive.google.com/uc?export=view&id=1yletESIKYv08DSBNF-5fYlz8L_LHAIKw', 'Stainless steel colander'),
 ('36', 'https://drive.google.com/uc?export=view&id=1yIl8vvnIloVSGhq6zYVBA4VhXRcK6K5k', 'Y-shaped vegetable peeler'),
 ('37', 'https://drive.google.com/uc?export=view&id=1yK1UHyfU_W3rdXB9foVOMNXnmPMP8M7W', 'Wooden chopping board'),
 ('38', 'https://drive.google.com/uc?export=view&id=1yKWQlhQMimOoRohI2oKtv1KZZXQfgQAK', 'Silicone cake mold'),
 ('39', 'https://drive.google.com/uc?export=view&id=1yLKhcTHXVfoHL_GwvDFp6vluXzXrYTkx', 'Stainless steel garlic press'),
 ('40', 'https://drive.google.com/uc?export=view&id=1yL_fANMBMW78iz7jCZkRwAxMqpeZjEY', 'Multi-blade herb scissors');

INSERT INTO SectionImage (sectionID, imageUrl, imageDescription) VALUES

('1', 'https://drive.google.com/uc?export=view&id=1z6u0UcOTC4xb8RgJhBQ2qktbIRkdIqr', 'Delicious Italian Dishes'),
 ('2', 'https://drive.google.com/uc?export=view&id=1z9YNnSijObN0zkrbSdQ7QZm9Yyx3bqK', 'Hearty Comfort Food'),
 ('3', 'https://drive.google.com/uc?export=view&id=1yTHk6md34xkt7AyPSltf6jKwasDzTWQs', 'Quick and Easy Recipes'),
 ('4', 'https://drive.google.com/uc?export=view&id=1yTO95RHJcxJT9ImR0Vw72xxDw8lfjzGX', 'Sweet Easter Treats'),
 ('5', 'https://drive.google.com/uc?export=view&id=1yU7A8t-1VM0rwz3a6d3DKIbQFV51Q9PK', 'Vibrant Mexican Cuisine'),
 ('6', 'https://drive.google.com/uc?export=view&id=1y_7fhootk2gH9S7GzPfFaxQ7XiAh9KI6', 'Fusion of Asian Flavors'),
 ('7', 'https://drive.google.com/uc?export=view&id=1ya9pDhkcfI85rKUU_qXxeooppdyTptv', 'Healthy and Nutritious Meals'),
 ('8', 'https://drive.google.com/uc?export=view&id=1yeXnt-yDq9EblkhPx-KZXYBgkiZZzqBT', 'Decadent Desserts'),
 ('9', 'https://drive.google.com/uc?export=view&id=1yekOo5CmmVMBimGcH_UVFK3L5_dUYuqr', 'Vibrant Mediterranean Cuisine'),
 ('10', 'https://drive.google.com/uc?export=view&id=1yfBuTx-O99psXrabxJDQeLMSXMFck1v', 'Grill Master Recipes'),
 ('11', 'https://drive.google.com/uc?export=view&id=1yhiK5V1Q5brkfgmLXuIQNiWNI9HvWuGP', 'Festive Holiday Meals'),
 ('12', 'https://drive.google.com/uc?export=view&id=1yikbPyBy7T5es3vve4D85r8lsz-OOx', 'Delectable Seafood Dishes'),
 ('13', 'https://drive.google.com/uc?export=view&id=1ymo_hopMkpu2MghpZritKMavmoOIG2Dd', 'Delicious Vegetarian Dishes'),
 ('14', 'https://drive.google.com/uc?export=view&id=1ynBQsvBwUZOInghDIxS-d-x_E3Pt3XATU', 'Scrumptious Vegan Dishes'),
 ('15', 'https://drive.google.com/uc?export=view&id=1ynUGyA8i4yW6pG_9sxNM8NsF05gNKMwh', 'Hearty Breakfasts'),
 ('16', 'https://drive.google.com/uc?export=view&id=1yp8_vjDdtFkgv4sCTCDYVnrKaxXZDub6', 'Classic Comfort Foods'),
 ('17', 'https://drive.google.com/uc?export=view&id=1yqKreEDmqFUGX0xomGBgsO-pMJLED_BN', 'Delightful Baked Goods'),
 ('18', 'https://drive.google.com/uc?export=view&id=1yqT2z50ghzIbOqrIWRlcvBEJyJ2z_MzK', 'Exotic Culinary Delights'),
 ('19', 'https://drive.google.com/uc?export=view&id=1yt5Q-BCjUmWujdM7540cpv5pF5jT0Ky', 'Comforting Soups and Stews'),
 ('20', 'https://drive.google.com/uc?export=view&id=1yuxTrq81UwOTFU7VDxC3uUk9gqF_P-Mr', 'Appetizing Starters'),
 ('21', 'https://drive.google.com/uc?export=view&id=1yvQuyJSIhVv7CBL0NksbfHzSpAUOPqHc', 'Kid-Friendly Meals'),
 ('22', 'https://drive.google.com/uc?export=view&id=1ywSYUAK-O2G5hL3SwQhq6b6NN5wEAevA', 'Party Favorites'),
 ('23', 'https://drive.google.com/uc?export=view&id=1yww0AMvseWANEogQ5Ks5KcQa2WvFNje7', 'Slow Cooker Recipes'),
 ('24', 'https://drive.google.com/uc?export=view&id=1yy36NfgeGBbCfAJjxNEAHBgVYciT4C-', 'Gluten-Free Delights'),
 ('25', 'https://drive.google.com/uc?export=view&id=1yy5clGp00LDiK0Em5zv79R4xOzX0OGbX', 'Pasta Paradise Delights'),
 ('26', 'https://drive.google.com/uc?export=view&id=1yzIy4i42QR5F3TDJSSsLK901qY2rBH2N', 'Sensational Salads'),
 ('27', 'https://drive.google.com/uc?export=view&id=1yzMuwHw13KQ3613anxTJ2CqkA00iElys', 'Southern Comfort Fare'),
 ('28', 'https://drive.google.com/uc?export=view&id=1z-2N1FWyKR5fLHzNSI4acFykRlCXsPo', 'BBQ Bliss Creations'),
 ('29', 'https://drive.google.com/uc?export=view&id=1z426guJxEQdDXJwPMusGmoze156xC90h', 'One-Pot Wonder Delights'),
 ('30', 'https://drive.google.com/uc?export=view&id=1z4ypuUjumHwCPgoFoqelglqT1WW36-G3', 'Finger Food Fun'),
 ('31', 'https://drive.google.com/uc?export=view&id=1z57NaUGZGmhrfagMEyYz_hltxKf75Zr', 'Breakfast Treats Delights');

('32', 'https://drive.google.com/uc?export=view&id=1z5o6CHnEfSZR_ztTPpmb_uVJS1TJRaus', 'Holiday Treats Delicacies'),

('33', 'https://drive.google.com/uc?export=view&id=1z5q1FBSle8b1cwNnvQHicLdjdS3i5Dx', 'Hearty Meal Delights'),

('34', 'https://drive.google.com/uc?export=view&id=1z63FbrAoGFjibZmDeMFXVLieZyJw-4xq', 'Summer Favorites Delights');

INSERT INTO RecipeImage (recipeID, imageUrl, imageDescription) VALUES

(1, 'https://drive.google.com/uc?export=view&id=1unKt6UT30xqE4i0VbZXvri9TTUaQpW_w', 'Spaghetti Carbonara with Bacon and Cheese'),

(2, 'https://drive.google.com/uc?export=view&id=1uoCOYUdFjhmdc0G6sExJ9Yg4JR5cfnZ', 'Rich and Creamy Tomato Soup'),

(3, 'https://drive.google.com/uc?export=view&id=1upqc6mjYyM5S8p67Eal-2Xzh490Zg-Zz', 'Beef Stir Fry with Vegetables'),

(4, 'https://drive.google.com/uc?export=view&id=1uqwChyfXr-TN4Ms7c0Dkz_kEyUD37E1A', 'Tacos Al Pastor with Pineapple'),

(5, 'https://drive.google.com/uc?export=view&id=1usS_Eq42KufZAbSYXhyOseV8KcgGekL', 'Creamy Fettuccine Alfredo'),

(6, 'https://drive.google.com/uc?export=view&id=1utWXp_YUOJCHpa-PB3EY4R5Ple_QsYm8', 'Assorted Sushi Rolls'),

(7, 'https://drive.google.com/uc?export=view&id=1utzVimJsmKO53cg9BUqgGlZPChpgNMfs', 'Rich Chocolate Layer Cake'),

(8, 'https://drive.google.com/uc?export=view&id=1uugCUQnS7RF35eDRrs9T8KqO6CmKn7e', 'Traditional Spanish Paella'),

(9, 'https://drive.google.com/uc?export=view&id=1uwFkDCscztS_qzqaddarVaThLxG9QCUD', 'Stir-fried Pad Thai Noodles'),

(10, 'https://drive.google.com/uc?export=view&id=1uxA1TAcVDoNh3eGOSh2leyOjkoioYv6a', 'Spiced Chicken Tikka Masala'),

(11, 'https://drive.google.com/uc?export=view&id=1uxdP4kdRtLR4AIHcEFbmlcVUzqhCyNX_', 'Vietnamese Pho Noodle Soup'),

(12, 'https://drive.google.com/uc?export=view&id=1uyMVSwxEJd2J5CidjipScxApwzeZnX3', 'Brazilian Feijoada Stew'),

(13, 'https://drive.google.com/uc?export=view&id=1uynAgEw7__YaBibEFhKaT0jc3gfaBgUN', 'Slow-cooked Moroccan Tagine'),

(14, 'https://drive.google.com/uc?export=view&id=1v1dXBNUuG_etpilnO_R_epRxzBUdhcgr', 'Middle Eastern Shawarma Wrap'),

(15, 'https://drive.google.com/uc?export=view&id=1v2K9u9-juahqpP-zO3-BkUqM_EjUhpnl', 'Eastern European Borscht Soup'),

(16, 'https://drive.google.com/uc?export=view&id=1v32TWFHJWEe6ZVp0uCwxFkywb9vLpbTL', 'Breaded Wiener Schnitzel'),

(17, 'https://drive.google.com/uc?export=view&id=1v4IL6y22US1qrj9u2S2JUvR18j6DEL3P', 'Swedish Meatballs (Köttbullar)'),

(18, 'https://drive.google.com/uc?export=view&id=1v9JBACQ8zRT70rYrwi4BkRACeMHDIWDX', 'Korean Kimchi Jjigae Stew'),

(19, 'https://drive.google.com/uc?export=view&id=1vDQZm8fA5aac7atgPNrIWk9L6eXnHvIz', 'Filipino Adobo Meat Dish'),

(20, 'https://drive.google.com/uc?export=view&id=1vEEbnDXi0hsP2Kp6hyphdg5EYJNvAZyW', 'Cuban Ropa Vieja Stew'),

(21, 'https://drive.google.com/uc?export=view&id=1vF9ZzGYu1Gzg9zv6-rgblz95o-l0hT7G', 'Peruvian Fresh Fish Ceviche'),

(22, 'https://drive.google.com/uc?export=view&id=1vGZBNcecSOJ0peyGMeeGetb-Uj9EIInag', 'Argentinian Mixed Grilled Meats'),

(23, 'https://drive.google.com/uc?export=view&id=1vJ_-e4MEoRwOizcemMCu6pYJMFpHwGTc', 'Chilean Corn Pie (Pastel de Choclo)'),

(24, 'https://drive.google.com/uc?export=view&id=1vLMFhTzGtK35NMtNXIQBKhR0S3ks6ouA', 'Colombian Ajiaco Chicken Soup'),

(25, 'https://drive.google.com/uc?export=view&id=1vNjuDMataTRI14lrceaPh323ubzT-DtL', 'Australian Lamingtons Sponge Cake'),

(26, 'https://drive.google.com/uc?export=view&id=1vPJNT3ArVwidYYPgTSq88zP9DAOJCDFa', 'Greek Souvlaki Skewered Meat'),

(27, 'https://drive.google.com/uc?export=view&id=1vQ-EQ3aIDKsDd7y0W06Me-x4bLaKMeIM', 'Layered Greek Moussaka Casserole'),

(28, 'https://drive.google.com/uc?export=view&id=1vRWE7-4_T8THkpmtnMf9kDZ9xrEjkOm', 'Middle Eastern Fried Falafel Balls'),

(29, 'https://drive.google.com/uc?export=view&id=1vSEOVUkKPr0zb4pFLdqYZEj_xbRf3_VO', 'Polish Dumplings (Pierogi)'),

(30, 'https://drive.google.com/uc?export=view&id=1vSdlvX-Q5gRNF3bDRivGeGw5Z0m9YGZo', 'South African Bunny Chow with Curry'),

(31, 'https://drive.google.com/uc?export=view&id=1vSdqrLOupPOB4aUFglpAILHfP8HLICL', 'Ethiopian Doro Wat Chicken Stew'),

(32, 'https://drive.google.com/uc?export=view&id=1vUtMYPHCkQf1aKYxOFivqRr7ydhGXh', 'Creamy Italian Risotto'),

(33, 'https://drive.google.com/uc?export=view&id=1vVKh7U2axta262OYDmGmWLB2qgCeG2O', 'French Bouillabaisse Seafood Stew'),

(34, 'https://drive.google.com/uc?export=view&id=1vWwDaD-_lrJMyKPjuGqNifKvU2Kihf20', 'Japanese Savory Pancake (Okonomiyaki)'),

(35, 'https://drive.google.com/uc?export=view&id=1v_sbNHX9hMRD7UonQvJaE1hr-8GIYE3f', 'Spicy Chinese Kung Pao Chicken'),

(36, 'https://drive.google.com/uc?export=view&id=1v_y6BK-Mm0qYGRiBqDSiHCFrSjGzCnuu', 'Mexican Enchiladas with Chili Sauce'),

(37, 'https://drive.google.com/uc?export=view&id=1vaFDmgtspY3HRKCpdpuA1XdpDTsgAFJp', 'Cold Spanish Gazpacho Soup'),

(38, 'https://drive.google.com/uc?export=view&id=1vcLm63ZAKZqjivHjOa1sZ4eE3xyO0opJ', 'Spicy Indian Curry Chicken'),

(39, 'https://drive.google.com/uc?export=view&id=1vccCQqQh75ZPNfQebTuPVmoesH2EUL0Q', 'Vietnamese Banh Mi Sandwich'),

(40, 'https://drive.google.com/uc?export=view&id=1vcmbgf1jG9Txahh70VJWY0eSkFamZYbr', 'Moroccan Harira Soup'),

(41, 'https://drive.google.com/uc?export=view&id=1vdmr51gfynvqschxuPK75v8goaEeQe9J', 'Greek Lamb Gyro Wrap'),

(42, 'https://drive.google.com/uc?export=view&id=1ve1mmNkpVDZc3QmaX5y0usu0lt5BWnZF', 'Lebanese Chicken Shawarma Wrap'),

(43, 'https://drive.google.com/uc?export=view&id=1vg4aeO-VmWu5OM0lwgRfBThxb14owvhW', 'Traditional Russian Blini Pancakes'),

(44, 'https://drive.google.com/uc?export=view&id=1vhZ5-mUv9c36OGz4GoPZclgfkNIGDgwh', 'German Bratwurst Sausage'),

(45, 'https://drive.google.com/uc?export=view&id=1vi2UOhezScm2CTOgwDa5yEGfB0VdzcOQ', 'Swedish Sandwich Cake (Smörgåstårta)'),

(46, 'https://drive.google.com/uc?export=view&id=1vjGx--h4TyxwShCwyQcj4y15qADTbLdl', 'Korean Bibimbap with Mixed Vegetables'),

(47, 'https://drive.google.com/uc?export=view&id=1vkrAQnTbKAWeAakpvHtcEca39pAGJs6A', 'Filipino Adobo Meat Stew'),

(48, 'https://drive.google.com/uc?export=view&id=1vl3bM5TKH6QpUwdra8AOP2_HP3Bsfl3g', 'Cuban Arroz con Pollo with Rice'),

(49, 'https://drive.google.com/uc?export=view&id=1vlnqtmKh4A_QX0nN7LwfOixeaBaqhy1W', 'Peruvian Causa Layered Potato Dish'),

(50, 'https://drive.google.com/uc?export=view&id=1vmt5A6wYYLnw5Q_-WigEKgZ_kFvzVnMh', 'Argentinian Stuffed Empanadas Pastry');

INSERT INTO IngredientImage (ingredientID, imageUrl, imageDescription) VALUES

(1, 'https://drive.google.com/uc?export=view&id=1x42SileDmQPIUyhaCB0iGw6xXLMerM0V', 'Fresh Milk'),

(2, 'https://drive.google.com/uc?export=view&id=1x5UYXWMrrdBepvUDCZ6D1K0-uP_s1Zl', 'Ripe Tomatoes'),

(3, 'https://drive.google.com/uc?export=view&id=1vw6udhQXl7Znc1DZ0t8CcN9o9sBzLUae', 'Fresh Apple'),

(4, 'https://drive.google.com/uc?export=view&id=1vteqrBmn62ZwI5IJRapZyned51OkhTLY', 'Raw Beef'),

(5, 'https://drive.google.com/uc?export=view&id=1vuvNOHsG-MoCY9IAJtb7mkD_E-iHNP8M', 'Raw Rice Grains'),

(6, 'https://drive.google.com/uc?export=view&id=1vwvNibgfuBu-V_dJOrZ8nQ4T587m1sSW', 'Raw Chicken Breast'),

(7, 'https://drive.google.com/uc?export=view&id=1vyikKXDb4AkL5Virpa415CdAUFvYoZpx', 'Raw Salmon Fillet'),

(8, 'https://drive.google.com/uc?export=view&id=1w0m2ySvk1j36-lo-NMaOaiK_VTzbfR8H', 'Fresh Lettuce Leaves'),

(9, 'https://drive.google.com/uc?export=view&id=1w5tYutl1swnaRSLQTFvFV_m4Yh_PD2LF', 'Fresh Cucumber'),

(10, 'https://drive.google.com/uc?export=view&id=1w7WQUBPnHUJJO2FxFzLLaBw2BAmtGP', 'Raw Egg'),

(11, 'https://drive.google.com/uc?export=view&id=1wCBCPRF8mdadtFdP_R4Flt2CXDRtkg8C', 'Whole Almonds'),

(12, 'https://drive.google.com/uc?export=view&id=1wCbQDCZwgdZu0UTD9gz3ymorZ-iAT-3', 'Whole Walnuts'),

(13, 'https://drive.google.com/uc?export=view&id=1wDZkbqRnDu2fPLJIFKjaxe9s3Jbqhg52', 'Raw Pork Loin'),

(14, 'https://drive.google.com/uc?export=view&id=1wFgNjYowFN-2FoF0yXnHU4j1UbZcn-1', 'Raw Tofu'),

(15, 'https://drive.google.com/uc?export=view&id=1wGARLF7kDnONPwBwo-aBw4dvOh9U9pD', 'Raw Lamb Chops'),

(16, 'https://drive.google.com/uc?export=view&id=1wGVsjygzJbyU88HZYCNQAJoxGFu5V6', 'Fresh Carrot'),

(17, 'https://drive.google.com/uc?export=view&id=1wG_FAG9qkMi6xCrZ3gX8rT_JeBjUqsgK', 'Fresh Sweet Potato'),

(18, 'https://drive.google.com/uc?export=view&id=1wHdkAoX5A7x-2PNWtxS1UNMkkfBs0mqD', 'Creamy Yogurt'),

(19, 'https://drive.google.com/uc?export=view&id=1wJE6hCOD9UQxiNnZXAAoQOPP7da5yY6M', 'Cheddar Cheese Wedge'),

(20, 'https://drive.google.com/uc?export=view&id=1wJdodO-Jn1rOPXDMvVISYxbapvZg6za', 'Fresh Broccoli Florets'),

(21, 'https://drive.google.com/uc?export=view&id=1wMhm0xDtZluBPBox6bLpkrXDLyBHK2Cp', 'Fresh Spinach Leaves'),

(22, 'https://drive.google.com/uc?export=view&id=1wPTw--K6oJ3lq4GH4xiwedIWvmZtq_We', 'Fresh Orange'),

(23, 'https://drive.google.com/uc?export=view&id=1wQG9ksTdfekG2-A-UhftCQeQ030beaG3', 'Ripe Banana'),

(24, 'https://drive.google.com/uc?export=view&id=1wSywCsIxdVQoOhd76KeVLBMOiUENIV', 'Fresh Strawberry'),

(25, 'https://drive.google.com/uc?export=view&id=1wYXEIDqEI2hAzzbTVtzP9jv8x7dCYKsM', 'Fresh Blueberry'),

(26, 'https://drive.google.com/uc?export=view&id=1wYvCKGozDTH2eOVZh269_ysp-CmrAuMe', 'Golden Maple Syrup'),

(27, 'https://drive.google.com/uc?export=view&id=1wZRIlBvqnVGKvrCCftNKJ8-rVS9yWMI', 'Extra Virgin Olive Oil'),

(28, 'https://drive.google.com/uc?export=view&id=1wZd3vWqQHrfua4KyGExomrYDVEA29Uw', 'Chunk of Butter'),

(29, 'https://drive.google.com/uc?export=view&id=1wZthXXg8vUgKYHV6BSPxlzaBAtQSTzF', 'Sliced Whole Wheat Bread'),

(30, 'https://drive.google.com/uc?export=view&id=1w_fl-z19egtDPVaWUK2i429GRKospHs', 'Raw White Rice Grains'),

(31, 'https://drive.google.com/uc?export=view&id=1wdOeEBugJCDZYibQOuNBKYrgDEpEWkDL', 'Raw Quinoa Grains'),

(32, 'https://drive.google.com/uc?export=view&id=1weQnhF-KwCm6sAqafvJc_isNXMz1-5K', 'Fresh Beetroot'),

(33, 'https://drive.google.com/uc?export=view&id=1wg1T2iLKZsFz1pBagGGNntnWfPn8Gx6j', 'Ripe Avocado'),

(34, 'https://drive.google.com/uc?export=view&id=1wgC_-KFVUv41tN9IFwLbj-054rW0kFFa', 'Virgin Coconut Oil'),

(35, 'https://drive.google.com/uc?export=view&id=1wiULjnfGnkMI5EgDZlorBBx9xvnYFd3q', 'Creamy Peanut Butter'),

(36, 'https://drive.google.com/uc?export=view&id=1wjJlFQQ1vnkao6Lwl7WQtAin3rTIEGAN', 'Fresh Garlic Bulb'),

(37, 'https://drive.google.com/uc?export=view&id=1wlW8Tjs4xOm65mMmKBNXzwkP61gvDuH', 'Fresh Onion'),

(38, 'https://drive.google.com/uc?export=view&id=1wm0ZMVJmKqXRh8x57ZA04jKrt8ggtPay', 'Fresh Bell Pepper'),

(39, 'https://drive.google.com/uc?export=view&id=1wmGnSquDIPDmfXSchppO8KesD05pCn0h', 'Fresh Mushroom'),

(40, 'https://drive.google.com/uc?export=view&id=1wnhG6rDRe_zjg1UBFaERcKR0EOD4lcZS', 'Juicy Watermelon'),

(41, 'https://drive.google.com/uc?export=view&id=1wpsZgEcbDCTx2X6GPTmKQeflW95Yq5vy', 'Sweet Cherry'),

(42, 'https://drive.google.com/uc?export=view&id=1wsFp6UfYe_ZOhc0dj6p8XUP0QfAhETW-', 'Fresh Asparagus Spears'),

(43, 'https://drive.google.com/uc?export=view&id=1wtDOEdiZKExlNubow4Y59sVFuA8wkiAV', 'Fresh Green Peas'),

(44, 'https://drive.google.com/uc?export=view&id=1wueAyiQN3VNUxF2PWL0t3ta0pmfkEjD', 'Fresh Corn on the Cob'),

(45, 'https://drive.google.com/uc?export=view&id=1wvWwD2hqfPmbfs8CQ6xZowmjiPBOUoWC', 'Whole Cashew Nuts'),

(46, 'https://drive.google.com/uc?export=view&id=1wz2Mnj3XW6-xa09qpDftYq5b1n2pVcP', 'Uncooked Pasta'),

(47, 'https://drive.google.com/uc?export=view&id=1wzLCN8VS06uWyeEkH3bPIYIWD6JhNbfY', 'Raw Venison Meat'),

(48, 'https://drive.google.com/uc?export=view&id=1wzR5cGWygy-wCJN0d5AJUyJbKzil_HY3', 'Whole Raw Turkey'),

(49, 'https://drive.google.com/uc?export=view&id=1x3OD-nqa4tX-CvANlgQaCfcJhmv2zXlu', 'Whole Raw Duck'),

(50, 'https://drive.google.com/uc?export=view&id=1x3vz1O6reB9SdluSX_rGIMUJQDyeslUt', 'Whole Raw Goose');

INSERT INTO CookImage (cookID, imageUrl, imageDescription) VALUES

(1, 'https://drive.google.com/uc?export=view&id=1x6Ebnv1e_tEa8kw_tYw-DQfArW_FZzx8', 'Gordon Ramsay in the kitchen'),

(2, 'https://drive.google.com/uc?export=view&id=1x6Ebnv1e_tEa8kw_tYw-DQfArW_FZzx8', 'Christine Ha preparing a dish'),

(3, 'https://drive.google.com/uc?export=view&id=1x6Ebnv1e_tEa8kw_tYw-DQfArW_FZzx8', 'Enrique Olvera showcasing his culinary skills'),

(4, 'https://drive.google.com/uc?export=view&id=1x6Ebnv1e_tEa8kw_tYw-DQfArW_FZzx8', 'Mina Kwon presenting her signature dish'),

(5, 'https://drive.google.com/uc?export=view&id=1x6Ebnv1e_tEa8kw_tYw-DQfArW_FZzx8', 'Alex Mercer cooking with passion'),

(6, 'https://drive.google.com/uc?export=view&id=1x6Ebnv1e_tEa8kw_tYw-DQfArW_FZzx8', 'Laila El-Haddad sharing her cooking secrets'),

(7, 'https://drive.google.com/uc?export=view&id=1x6Ebnv1e_tEa8kw_tYw-DQfArW_FZzx8', 'Hiro Tanaka in action in the kitchen'),

(8, 'https://drive.google.com/uc?export=view&id=1x6Ebnv1e_tEa8kw_tYw-DQfArW_FZzx8', 'Anna Schmidt preparing a delicious meal'),

(9, 'https://drive.google.com/uc?export=view&id=1x6Ebnv1e_tEa8kw_tYw-DQfArW_FZzx8', 'Raj Singh creating culinary masterpieces'),

(10, 'https://drive.google.com/uc?export=view&id=1x6Ebnv1e_tEa8kw_tYw-DQfArW_FZzx8', 'Isabella Moretti presenting her gourmet creations'),

(11, 'https://drive.google.com/uc?export=view&id=1x6Ebnv1e_tEa8kw_tYw-DQfArW_FZzx8', 'Thiago Santos cooking with precision'),

(12, 'https://drive.google.com/uc?export=view&id=1x6Ebnv1e_tEa8kw_tYw-DQfArW_FZzx8', 'Lucy Armstrong showcasing her culinary expertise'),

(13, 'https://drive.google.com/uc?export=view&id=1x6Ebn1e_tEa8kw_tYw-DQfArW_FZzx8', 'Yasmin Chaudhry sharing her love for cooking'),

(14, 'https://drive.google.com/uc?export=view&id=1x6Ebn1e_tEa8kw_tYw-DQfArW_FZzx8', 'Ella Foster mastering the art of cooking'),

(15, 'https://drive.google.com/uc?export=view&id=1x6Ebn1e_tEa8kw_tYw-DQfArW_FZzx8', 'Charles Jones presenting his culinary delights'),

(16, 'https://drive.google.com/uc?export=view&id=1x6Ebn1e_tEa8kw_tYw-DQfArW_FZzx8', 'Beatrice Miller cooking with finesse'),

(17, 'https://drive.google.com/uc?export=view&id=1x6Ebn1e_tEa8kw_tYw-DQfArW_FZzx8', 'Jorge Vasquez showcasing his culinary talents'),

(18, 'https://drive.google.com/uc?export=view&id=1x6Ebn1e_tEa8kw_tYw-DQfArW_FZzx8', 'Nina Patel preparing delicious dishes with expertise'),

(19, 'https://drive.google.com/uc?export=view&id=1x6Ebn1e_tEa8kw_tYw-DQfArW_FZzx8', 'Oliver Thompson demonstrating his cooking skills'),

(20, 'https://drive.google.com/uc?export=view&id=1x6Ebn1e_tEa8kw_tYw-DQfArW_FZzx8', 'Irene Ko, a master in the culinary arts'),

(21, 'https://drive.google.com/uc?export=view&id=1x6Ebn1e_tEa8kw_tYw-DQfArW_FZzx8', 'Martin Clark showing his passion for cooking'),

(22, 'https://drive.google.com/uc?export=view&id=1x6Ebn1e_tEa8kw_tYw-DQfArW_FZzx8', 'Zoe Li presenting her creative culinary creations'),

(23, 'https://drive.google.com/uc?export=view&id=1x6Ebn1e_tEa8kw_tYw-DQfArW_FZzx8', 'Samuel Black, a culinary genius in action'),

(24, 'https://drive.google.com/uc?export=view&id=1x6Ebn1e_tEa8kw_tYw-DQfArW_FZzx8', 'Amelia Brown showcasing her culinary creations'),

(25, 'https://drive.google.com/uc?export=view&id=1x6Ebn1e_tEa8kw_tYw-DQfArW_FZzx8', 'Harry Wilson presenting his gourmet dishes'),

(26, 'https://drive.google.com/uc?export=view&id=1x6Ebn1e_tEa8kw_tYw-DQfArW_FZzx8', 'Mia Roberts demonstrating her culinary expertise'),

(27, 'https://drive.google.com/uc?export=view&id=1x6Ebn1e_tEa8kw_tYw-DQfArW_FZzx8', 'Noah Taylor cooking with dedication and skill'),

(28, 'https://drive.google.com/uc?export=view&id=1x6Ebn1e_tEa8kw_tYw-DQfArW_FZzx8', 'Sophia Lee, a culinary maestro in action'),

(29, 'https://drive.google.com/uc?export=view&id=1x6Ebn1e_tEa8kw_tYw-DQfArW_FZzx8', 'Liam White presenting his culinary masterpieces'),

(30, 'https://drive.google.com/uc?export=view&id=1x6Ebn1e_tEa8kw_tYw-DQfArW_FZzx8', 'Emily Harris showcasing her gourmet delights'),

(31, 'https://drive.google.com/uc?export=view&id=1x6Ebn1e_tEa8kw_tYw-DQfArW_FZzx8', 'Jacob Martin demonstrating his culinary skills'),

(32, 'https://drive.google.com/uc?export=view&id=1x6Ebn1e_tEa8kw_tYw-DQfArW_FZzx8', 'Isabella Garcia sharing her culinary expertise'),

(33, 'https://drive.google.com/uc?export=view&id=1x6Ebn1e_tEa8kw_tYw-DQfArW_FZzx8', 'Ethan Davis presenting his culinary creations'),

(34, 'https://drive.google.com/uc?export=view&id=1x6Ebn1e_tEa8kw_tYw-DQfArW_FZzx8', 'Madison Evans cooking with creativity'),

(35, 'https://drive.google.com/uc?export=view&id=1x6Ebn1e_tEa8kw_tYw-DQfArW_FZzx8', 'Logan Wilson showcasing his culinary talents'),

(36, 'https://drive.google.com/uc?export=view&id=1x6Ebn1e_tEa8kw_tYw-DQfArW_FZzx8', 'Ella Anderson mastering the art of cooking'),

(37, 'https://drive.google.com/uc?export=view&id=1x6Ebn1e_tEa8kw_tYw-DQfArW_FZzx8', 'James Thomas demonstrating his culinary skills'),

(38, 'https://drive.google.com/uc?export=view&id=1x6Ebn1e_tEa8kw_tYw-DQfArW_FZzx8', 'Charlotte Moore presenting her gourmet dishes');

INSERT INTO EpisodeImage (episodeID, imageUrl, imageDescription) VALUES

(1, 'https://drive.google.com/uc?export=view&id=1x875y5zgd8_6lzHLbF3bv8YG1f2rq83W', 'Season Finale 2024 Episode'),

(2, 'https://drive.google.com/uc?export=view&id=1x875y5zgd8_6lzHLbF3bv8YG1f2rq83W', 'Episode 9 of Season 4, 2024'),

(3, 'https://drive.google.com/uc?export=view&id=1x875y5zgd8_6lzHLbF3bv8YG1f2rq83W', 'Episode 8 of Season 4, 2024'),

(4, 'https://drive.google.com/uc?export=view&id=1x875y5zgd8_6lzHLbF3bv8YG1f2rq83W', 'Episode 7 of Season 4, 2024'),

(5, 'https://drive.google.com/uc?export=view&id=1x875y5zgd8_6lzHLbF3bv8YG1f2rq83W', 'Episode 6 of Season 4, 2024'),

(6, 'https://drive.google.com/uc?export=view&id=1x875y5zgd8_6lzHLbF3bv8YG1f2rq83W', 'Episode 5 of Season 4, 2024'),

(7, 'https://drive.google.com/uc?export=view&id=1x875y5zgd8_6lzHLbF3bv8YG1f2rq83W', 'Episode 4 of Season 4, 2024'),

(8, 'https://drive.google.com/uc?export=view&id=1x875y5zgd8_6lzHLbF3bv8YG1f2rq83W', 'Episode 3 of Season 4, 2024'),

(9, 'https://drive.google.com/uc?export=view&id=1x875y5zgd8_6lzHLbF3bv8YG1f2rq83W', 'Episode 2 of Season 4, 2024'),

(10, 'https://drive.google.com/uc?export=view&id=1x875y5zgd8_6lzHLbF3bv8YG1f2rq83W', 'Season Opener 2024 Episode'),

(11, 'https://drive.google.com/uc?export=view&id=1x875y5zgd8_6lzHLbF3bv8YG1f2rq83W', 'Season Finale 2023 Episode'),

(12, 'https://drive.google.com/uc?export=view&id=1x875y5zgd8_6lzHLbF3bv8YG1f2rq83W', 'Episode 9 of Season 3, 2023'),

-- Insert Roles

```

INSERT INTO Role (name) VALUES ('Administrator'), ('Cook');

-- Insert Permissions

INSERT INTO Permission (name, description) VALUES

('edit_recipe', 'Edit assigned recipes'),

('add_recipe', 'Add new recipes'),

('edit_personal_details', 'Edit personal details'),

('edit_all_data', 'Edit all system data'),

('backup_database', 'Backup the database'),

('restore_database', 'Restore the database');

-- Assign Permissions to Roles

-- Administrator permissions

INSERT INTO RolePermission (roleID, permissionID)

SELECT roleID, permissionID FROM Role, Permission

WHERE Role.name = 'Administrator';

-- Cook permissions

INSERT INTO RolePermission (roleID, permissionID)

SELECT roleID, permissionID FROM Role, Permission

WHERE Role.name = 'Cook' AND Permission.name IN ('edit_recipe', 'add_recipe', 'edit_personal_details');

-- Create an Administrator user with hashed password

INSERT INTO User (username, passwordHash, firstName, lastName, roleID) VALUES

('admin', SHA2('admin_password', 256), 'Admin', 'User', (SELECT roleID FROM Role WHERE name = 'Administrator'));

-- Create a Cook user with hashed password and link to an existing cook

INSERT INTO User (username, passwordHash, firstName, lastName, roleID) VALUES

('cook1', SHA2('cook1_password', 256), 'Gordon', 'Ramsay', (SELECT roleID FROM Role WHERE name = 'Cook'));

-- Link the Cook to the User

UPDATE Cook SET userID = (SELECT userID FROM User WHERE username = 'cook1') WHERE firstName = 'Gordon' AND lastName = 'Ramsay';

-- Verify user login

SELECT * FROM User

WHERE username = 'admin' AND passwordHash = SHA2('admin_password', 256);

```

6) Βοηθητικά Procedures και Views

a. CalculateCaloriesPerServing

Δημιουργεί μια αποθηκευμένη διαδικασία ονόματι CalculateCaloriesPerServing η οποία υπολογίζει και ενημερώνει τις θερμίδες ανά μερίδα για όλες τις συνταγές στον πίνακα Recipe. Η διαδικασία ξεκινά ανοίγοντας έναν δείκτη (cursor) που επαναλαμβάνει κάθε recipeID από τον πίνακα Recipe. Για κάθε συνταγή, η διαδικασία υπολογίζει τις συνολικές θερμίδες βασισμένες στις θερμίδες ανά 100 γραμμάρια των συστατικών και τις ποσότητες τους, και ενημερώνει το πεδίο caloriesPerServing της συνταγής με το υπολογισμένο σύνολο. Όταν όλες οι συνταγές έχουν επεξεργαστεί, ο δείκτης κλείνει. Μετά την εκτέλεση της διαδικασίας με την εντολή CALL CalculateCaloriesPerServing(), γίνεται μια επιλογή (SELECT) για να εμφανιστούν τα recipeID, το name και οι ενημερωμένες caloriesPerServing όλων των συνταγών.

DELIMITER //

```
CREATE PROCEDURE CalculateCaloriesPerServing()
BEGIN
    DECLARE done INT DEFAULT FALSE;
    DECLARE recipe_id INT;
    DECLARE total_calories DECIMAL(10,2);
    DECLARE cur CURSOR FOR
        SELECT recipeID FROM Recipe;
    DECLARE CONTINUE HANDLER FOR NOT FOUND SET done = TRUE;

    OPEN cur;

    read_loop: LOOP
        FETCH cur INTO recipe_id;
        IF done THEN
            LEAVE read_loop;
        END IF;

        SET total_calories = 0;

        SELECT SUM((caloriesPer100g * (REPLACE(quantity, 'g', '') / 100))) INTO total_calories
        FROM RecipeIngredients
        JOIN Ingredient ON RecipeIngredients.ingredientID = Ingredient.ingredientID
        WHERE recipeID = recipe_id;

        UPDATE Recipe SET caloriesPerServing = total_calories WHERE recipeID = recipe_id;
    END LOOP;
```



```

CLOSE cur;

END //

DELIMITER ;

CALL CalculateCaloriesPerServing();

SELECT recipeID, name, caloriesPerServing FROM Recipe;

```

b. Views

- View για την επιλογή των μαγείρων που δεν έχουν συμμετάσχει στα τελευταία 3 επεισόδια:

```

CREATE OR REPLACE VIEW AvailableCooks AS

SELECT c.cookID
FROM Cook c
LEFT JOIN (
    SELECT rc.cookID
    FROM RecipeCook rc
    JOIN Episode e ON rc.episodeID = e.episodeID
    ORDER BY e.airDate DESC
    LIMIT 30 -- Last 3 episodes (assuming 10 episodes per year)
) AS RecentCooks ON c.cookID = RecentCooks.cookID
WHERE RecentCooks.cookID IS NULL;

```

- View για την επιλογή των κριτών που δεν έχουν συμμετάσχει στα τελευταία 3 επεισόδια:

```

CREATE OR REPLACE VIEW AvailableJudges AS

SELECT j.judgeID
FROM Judge j
LEFT JOIN (
    SELECT cr.judgeID
    FROM CookRating cr
    JOIN Episode e ON cr.episodeID = e.episodeID
    ORDER BY e.airDate DESC
    LIMIT 30 -- Last 3 episodes (assuming 10 episodes per year)
) AS RecentJudges ON j.judgeID = RecentJudges.judgeID
WHERE RecentJudges.judgeID IS NULL;

```

- View για την επιλογή των κουζινών που δεν έχουν συμμετάσχει στα τελευταία 3 επεισόδια:

```

CREATE OR REPLACE VIEW AvailableCuisines AS

SELECT cu.cuisineID
FROM Cuisine cu
LEFT JOIN (

```

```

SELECT r.cuisineID

FROM Recipe r

JOIN RecipeCook rc ON r.recipeID = rc.recipeID

JOIN Episode e ON rc.episodeID = e.episodeID

ORDER BY e.airDate DESC

LIMIT 30 -- Last 3 episodes (assuming 10 episodes per year)

) AS RecentCuisines ON cu.cuisineID = RecentCuisines.cuisineID

WHERE RecentCuisines.cuisineID IS NULL;

```

- View για την επιλογή των συνταγών που δεν έχουν συμμετάσχει στα τελευταία 3 επεισόδια:

```

CREATE OR REPLACE VIEW AvailableRecipes AS

SELECT r.recipeID

FROM Recipe r

LEFT JOIN (

    SELECT rc.recipeID

    FROM RecipeCook rc

    JOIN Episode e ON rc.episodeID = e.episodeID

    ORDER BY e.airDate DESC

    LIMIT 30 -- Last 3 episodes (assuming 10 episodes per year)

) AS RecentRecipes ON r.recipeID = RecentRecipes.recipeID

WHERE RecentRecipes.recipeID IS NULL;

```

c. GenerateEpisodeAssignments

```

DROP PROCEDURE IF EXISTS GenerateEpisodeAssignments;

DELIMITER //

CREATE PROCEDURE GenerateEpisodeAssignments(IN episodeID INT)

BEGIN

    -- Drop temporary tables if they already exist

    DROP TEMPORARY TABLE IF EXISTS SelectedCooks;

    DROP TEMPORARY TABLE IF EXISTS SelectedJudges;

    DROP TEMPORARY TABLE IF EXISTS SelectedCuisines;

    DROP TEMPORARY TABLE IF EXISTS SelectedRecipes;

    -- Create temporary tables to hold selections

    CREATE TEMPORARY TABLE SelectedCooks (cookID INT);

    CREATE TEMPORARY TABLE SelectedJudges (judgeID INT);

    CREATE TEMPORARY TABLE SelectedCuisines (cuisineID INT);

    CREATE TEMPORARY TABLE SelectedRecipes (recipeID INT);

    -- Select 10 random cooks

```

```

INSERT INTO SelectedCooks (cookID)

SELECT cookID FROM (

    SELECT cookID FROM AvailableCooks

    ORDER BY RAND()

    LIMIT 10

) AS RandomCooks;


-- Select 3 random judges

INSERT INTO SelectedJudges (judgeID)

SELECT judgeID FROM (

    SELECT judgeID FROM AvailableJudges

    ORDER BY RAND()

    LIMIT 3

) AS RandomJudges;


-- Select 10 random cuisines

INSERT INTO SelectedCuisines (cuisineID)

SELECT cuisineID FROM (

    SELECT cuisineID FROM AvailableCuisines

    ORDER BY RAND()

    LIMIT 10

) AS RandomCuisines;


-- Select 10 random recipes

INSERT INTO SelectedRecipes (recipeID)

SELECT recipeID FROM (

    SELECT recipeID FROM AvailableRecipes

    ORDER BY RAND()

    LIMIT 10

) AS RandomRecipes;


-- Assign cooks, judges, and recipes to the episode

INSERT INTO RecipeCook (recipeID, cookID, episodeID)

SELECT r.recipeID, c.cookID, episodeID

FROM SelectedRecipes r

JOIN SelectedCooks c ON r.recipeID = c.cookID;


-- Assign judges to the episode

INSERT INTO CookRating (cookID, episodeID, judgeID, score)

SELECT c.cookID, episodeID, j.judgeID, NULL

FROM SelectedCooks c

```

```

CROSS JOIN SelectedJudges j;

-- Clean up temporary tables

DROP TEMPORARY TABLE IF EXISTS SelectedCooks;

DROP TEMPORARY TABLE IF EXISTS SelectedJudges;

DROP TEMPORARY TABLE IF EXISTS SelectedCuisines;

DROP TEMPORARY TABLE IF EXISTS SelectedRecipes;

END //

DELIMITER ;

CALL GenerateEpisodeAssignments(1);

```

Ας αναλύσουμε παρακάτω τι κάνει η διαδικασία:

1. Διαγραφή Προσωρινών Πινάκων: Εάν οι προσωρινοί πίνακες SelectedCooks, SelectedJudges, SelectedCuisines και SelectedRecipes υπάρχουν ήδη, διαγράφονται για να δημιουργηθούν εκ νέου καθαροί πίνακες.
2. Δημιουργία Προσωρινών Πινάκων: Δημιουργούνται νέοι προσωρινοί πίνακες για να αποθηκευτούν οι επιλεγμένοι μάγειρες, κριτές, κουζίνες και συνταγές.
3. Επιλογή 10 Τυχαίων Μαγείρων: Χρησιμοποιείται το view AvailableCooks για να επιλεγθούν 10 τυχαίοι μάγειρες που δεν έχουν συμμετάσχει στα τελευταία 3 επεισόδια. Οι επιλεγμένοι μάγειρες εισάγονται στον προσωρινό πίνακα SelectedCooks.
4. Επιλογή 3 Τυχαίων Κριτών: Χρησιμοποιείται το view AvailableJudges για να επιλεγθούν 3 τυχαίοι κριτές που δεν έχουν συμμετάσχει στα τελευταία 3 επεισόδια. Οι επιλεγμένοι κριτές εισάγονται στον προσωρινό πίνακα SelectedJudges.
5. Επιλογή 10 Τυχαίων Κουζινών: Χρησιμοποιείται το view AvailableCuisines για να επιλεγθούν 10 τυχαίες κουζίνες που δεν έχουν συμμετάσχει στα τελευταία 3 επεισόδια. Οι επιλεγμένες κουζίνες εισάγονται στον προσωρινό πίνακα SelectedCuisines.
6. Επιλογή 10 Τυχαίων Συνταγών: Χρησιμοποιείται το view AvailableRecipes για να επιλεγθούν 10 τυχαίες συνταγές που δεν έχουν συμμετάσχει στα τελευταία 3 επεισόδια. Οι επιλεγμένες συνταγές εισάγονται στον προσωρινό πίνακα SelectedRecipes.
7. Ανάθεση Μαγείρων και Συνταγών στο Επεισόδιο: Οι επιλεγμένες συνταγές ανατίθενται στους επιλεγμένους μάγειρες και το επεισόδιο μέσω του πίνακα RecipeCook.
8. Ανάθεση Κριτών στο Επεισόδιο: Οι κριτές ανατίθενται στους μάγειρες για το συγκεκριμένο επεισόδιο μέσω του πίνακα CookRating.
9. Καθαρισμός Προσωρινών Πινάκων: Οι προσωρινοί πίνακες SelectedCooks, SelectedJudges, SelectedCuisines και SelectedRecipes διαγράφονται μετά τη χρήση τους.

7. Queries

Τα queries που ζητούνται βρίσκονται στο git repo της εφαρμογής μας, το οποίο δίνεται παρακάτω, στο αρχείο queries.sql.

8) Βήματα εγκατάστασης

Βήματα για την εγκατάσταση/εκτέλεση των προαπαιτούμενων για τη βάση δεδομένων μας:

Δουλέψαμε με MySQL για να δημιουργήσουμε τη βάση δεδομένων και χρησιμοποιήσαμε εναλλακτικά το MySQL Workbench και το phpMyAdmin.

Εγκατάσταση XAMPP:

<https://www.apachefriends.org/download.html>

Μετά το άνοιγμά του, ενεργοποιήστε τα Apache και MySQL Modules.

Αν λάβετε το παρακάτω σφάλμα: Εντοπίστηκε πρόβλημα! Η θύρα 3306 χρησιμοποιείται από "Unable to open process"! Η MySQL δεν θα ξεκινήσει χωρίς τις ελεύθερες διαμορφωμένες θύρες! Πρέπει να απεγκαταστήσετε/απενεργοποιήσετε/αναδιαμορφώσετε την εφαρμογή που μπλοκάρει ή να αναδιαμορφώσετε τη MySQL και το Control Panel για να ακούει σε διαφορετική θύρα:

Σταματήστε τον Apache Server από το XAMPP Control Panel (αν εκτελείται)

Ανοίξτε το XAMPP Control Panel => Config (Πάνω Δεξιά) => MySQL και αλλάξτε την κύρια θύρα σε 3307 => Αποθήκευση => Αποθήκευση

Κάντε κλικ στο Config του MySQL (μόνο από το Control Panel) => my.ini και αλλάξτε όλες τις εμφανίσεις του 3306 σε 3307 (Αναζήτηση με ctrl + F και αντικατάσταση όλων)

Κάντε κλικ στο Config του Apache (μόνο από το Control Panel) => config.inc.php και βρείτε τη γραμμή: `$cfg['Servers'][$i]['host'] = '127.0.0.1';`. Προσθέστε αυτήν την γραμμή κάτω από τη γραμμή που βρήκατε: `$cfg['Servers'][$i]['port'] = '3307';`

Τώρα, είστε έτοιμοι. Επίσης σημειώστε ότι θα πρέπει να αλλάξετε τη θύρα για όλα τα έργα σας σε 3307 για να λειτουργήσουν σωστά. Για παράδειγμα: από `$servername = "localhost";` σε `$servername = "localhost:3307";` στο αρχείο διαμόρφωσης της βάσης δεδομένων του έργου σας.

Ανοίξτε το phpMyAdmin στο:

<http://localhost/phpmyadmin/>

και είστε έτοιμοι να δημιουργήσετε μια νέα βάση δεδομένων!

Εναλλακτικά, μπορείτε να χρησιμοποιήσετε το MySQL Workbench:

Εγκατάσταση MySQL Workbench στο:

<https://dev.mysql.com/downloads/workbench/>

Μετά τη δημιουργία μιας σύνδεσης (π.χ. "Username" ως "root"), πρέπει να καθορίσετε τη "Θύρα" ως "3306" ή όποια θύρα έχετε στο MySQL Module στο XAMPP.

Μετά το άνοιγμα της σύνδεσης, και πάλι είστε έτοιμοι να δημιουργήσετε μια νέα βάση δεδομένων! Συγκεκριμένα, τη δική μας.

Βάση Δεδομένων

Βήματα για τη δημιουργία/πληθυσμό της βάσης δεδομένων:

Git clone

Μπορείτε να κάνετε git clone το αποθετήριο μας στο github για εύκολη πρόσβαση στα αρχεία SQL, πηγαίνοντας πρώτα στον επιθυμητό κατάλογο στη γραμμή εντολών:

cd C:\Desktop

και εκτελώντας:

git clone <https://github.com/ntua-el20889/Databases2023-2024.git>

Δημιουργία Βάσης Δεδομένων

Στη συνέχεια, μπορείτε να δημιουργήσετε μια νέα βάση δεδομένων είτε στο phpMyAdmin είτε στο MySQL Workbench και να εισάγετε τα αρχεία SQL απο το git repo που ακολουθεί στην επόμενη σελίδα με την ακόλουθη σειρά:

schema.sql

initial_data.sql

indexes.sql

Μπορείτε να εκτελέσετε τα ερωτήματα είτε ένα προς ένα (κατά προτίμηση) είτε όλα μαζί, στο αρχείο:

queries.sql

9) Github

Σύνδεσμος για το git repo της εφαρμογής:

<https://github.com/ntua-el20889/Databases2023-2024>

10. Χρήστες

Παρακάτω φαίνεται η δημιουργία των πινάκων Role, User, Permission και RolePermission για τη διαχείριση των ρόλων και δικαιωμάτων στην εφαρμογή. Ο πίνακας Role αποθηκεύει τους ρόλους με μοναδικά ονόματα, ενώ ο πίνακας User αποθηκεύει τους χρήστες με μοναδικά ονόματα χρήστη και κατακερματισμένους κωδικούς πρόσβασης, συνδέοντας κάθε χρήστη με έναν ρόλο. Ο πίνακας Permission αποθηκεύει τα δικαιώματα με περιγραφές, και ο πίνακας RolePermission συσχετίζει τους

ρόλους με τα δικαιώματα μέσω ξένων κλειδιών. Τέλος, τροποποιείται ο πίνακας Cook για να περιλαμβάνει το userID, συνδέοντας έτσι τους μάγειρες με τους χρήστες για την εξακρίβωση της ταυτότητάς τους και την εφαρμογή των δικαιωμάτων τους.

-- Role Table

```
CREATE TABLE Role (  
    roleID INT PRIMARY KEY AUTO_INCREMENT,  
    name VARCHAR(50) UNIQUE NOT NULL  
);
```

-- User Table

```
CREATE TABLE User (  
    userID INT PRIMARY KEY AUTO_INCREMENT,  
    username VARCHAR(50) UNIQUE NOT NULL,  
    passwordHash VARCHAR(255) NOT NULL,  
    firstName VARCHAR(50),  
    lastName VARCHAR(50),  
    roleID INT,  
    FOREIGN KEY (roleID) REFERENCES Role(roleID)  
);
```

-- Permission Table

```
CREATE TABLE Permission (  
    permissionID INT PRIMARY KEY AUTO_INCREMENT,  
    name VARCHAR(50) UNIQUE NOT NULL,  
    description VARCHAR(255)  
);
```

-- RolePermission Table

```
CREATE TABLE RolePermission (  
    roleID INT,  
    permissionID INT,  
    PRIMARY KEY (roleID, permissionID),  
    FOREIGN KEY (roleID) REFERENCES Role(roleID),  
    FOREIGN KEY (permissionID) REFERENCES Permission(permissionID)  
);
```

```
ALTER TABLE Cook ADD COLUMN userID INT;
```

```
ALTER TABLE Cook ADD CONSTRAINT fk_userID FOREIGN KEY (userID) REFERENCES User(userID);
```

Παρακάτω φαίνεται η εισαγωγή δύο ρόλων ('Administrator' και 'Cook') στον πίνακα Role και διάφορα δικαιώματα στον πίνακα Permission με τα αντίστοιχα ονόματα και περιγραφές τους. Στη συνέχεια, οι

εντολές αναθέτουν όλα τα δικαιώματα στον ρόλο 'Administrator' και συγκεκριμένα δικαιώματα ('edit_recipe', 'add_recipe', 'edit_personal_details') στον ρόλο 'Cook' μέσω του πίνακα RolePermission. Δημιουργούνται δύο χρήστες, ένας διαχειριστής ('admin') και ένας μάγειρας ('cook1'), με κατακερματισμένους κωδικούς πρόσβασης, και συνδέονται με τους αντίστοιχους ρόλους τους.

```
-- Roles and Permissions

-- Insert Roles

INSERT INTO Role (name) VALUES ('Administrator'), ('Cook');

-- Insert Permissions

INSERT INTO Permission (name, description) VALUES

('edit_recipe', 'Edit assigned recipes'),

('add_recipe', 'Add new recipes'),

('edit_personal_details', 'Edit personal details'),

('edit_all_data', 'Edit all system data'),

('backup_database', 'Backup the database'),

('restore_database', 'Restore the database');

-- Assign Permissions to Roles

-- Administrator permissions

INSERT INTO RolePermission (roleID, permissionID)

SELECT roleID, permissionID FROM Role, Permission

WHERE Role.name = 'Administrator';

-- Cook permissions

INSERT INTO RolePermission (roleID, permissionID)

SELECT roleID, permissionID FROM Role, Permission

WHERE Role.name = 'Cook' AND Permission.name IN ('edit_recipe', 'add_recipe', 'edit_personal_details');

-- Create an Administrator user with hashed password

INSERT INTO User (username, passwordHash, firstName, lastName, roleID) VALUES

('admin', SHA2('admin_password', 256), 'Admin', 'User', (SELECT roleID FROM Role WHERE name = 'Administrator'));

-- Create a Cook user with hashed password and link to an existing cook

INSERT INTO User (username, passwordHash, firstName, lastName, roleID) VALUES

('cook1', SHA2('cook1_password', 256), 'Gordon', 'Ramsay', (SELECT roleID FROM Role WHERE name = 'Cook'));

-- Link the Cook to the User

UPDATE Cook SET userID = (SELECT userID FROM User WHERE username = 'cook1') WHERE firstName = 'Gordon' AND lastName = 'Ramsay';
```


-- Verify user login

SELECT * FROM User

WHERE username = 'admin' AND passwordHash = SHA2('admin_password', 256);