**Database Description for Mom’s Kitchen**

The **momskitchen** database is designed to manage a collection of recipes and user interactions within a web-based cooking or food-sharing application. Below is an overview of its structure and the purpose of each table:

**1. Users Table**

* **Purpose**: Stores user information and manages authentication for the platform.
* **Key Columns**:
  + username (VARCHAR): A unique identifier for each user, serves as the primary key.
  + pwd\_hash (VARCHAR): Stores the hashed password for user authentication.
  + first\_name and last\_name (VARCHAR): Personal details of the user.
  + email (VARCHAR): Email address used for communication and account-related notifications.

**2. Recipes Table**

* **Purpose**: Holds information about various recipes that users can browse, cook, and save.
* **Key Columns**:
  + recipe\_id (INT): A unique identifier for each recipe, serves as the primary key.
  + name (VARCHAR): The name of the recipe.
  + description (TEXT): A brief description or summary of the recipe.
  + cuisine (VARCHAR): The type of cuisine (e.g., Italian, Chinese, Baking).
  + image\_url (TEXT): A link to an image of the dish.
  + ingredients\_json (JSON): A JSON-formatted list of ingredients required for the recipe.
  + instructions\_json (JSON): A JSON-formatted list of step-by-step cooking instructions.
  + date\_added (TIMESTAMP): The timestamp when the recipe was added to the database.

**3. Favorites Table**

* **Purpose**: Tracks which recipes are marked as favorites by each user.
* **Key Columns**:
  + username (VARCHAR): References a user from the users table.
  + recipe\_id (INT): References a recipe from the recipes table.
* **Notes**: Uses composite keys and foreign key constraints to ensure that only valid combinations of users and recipes are saved. When a user or a recipe is deleted, associated favorite records are automatically removed.

**Relationships:**

* **favorites Table** has foreign key constraints linking username to the users table and recipe\_id to the recipes table, ensuring referential integrity. If a user or a recipe is deleted, corresponding favorite entries are removed (ON DELETE CASCADE).

**Indexes:**

* Primary and unique keys are set on the main columns to optimize queries. For example:
  + The recipes table uses recipe\_id as a primary key for unique identification.
  + The users table uses username as a primary key to ensure unique user records.
  + The favorites table has unique constraints on the combination of username and recipe\_id to avoid duplicates.

**Summary**

The Mom’s Kitchen database is structured to efficiently store and manage user accounts, recipes, and user-specific interactions like marking favorites. It provides a relational model to facilitate robust queries, ensuring the ability to perform operations such as recipe browsing, saving favorites, and user management while maintaining data integrity through well-defined relationships and constraints.