



Account(account\_id:INT [PK], username:char(255), password:char(255),E-mail:char(255),address: char(255), IsManager: bool)

Recipe(recipe\_id:INT [PK], account\_id:INT [FK to Account.account\_id], title:char(255), subtitle:char(255), servings:INT, yield\_unit: char(255), prep\_min: INT, cook\_min: INT, source: char(255), intro: char(255), directions: char(255))

Like(Account\_id:INT [PK] [FK to Account.account\_id], recipe\_id:INT [PK] [FK to Recipe.recipe\_id])

Comment(comment\_id:INT [PK], recipe\_id:INT [FK to Recipe.recipe\_id], account\_id:INT [FK to Account.account\_id], content:char(255))

Ingredient(ingredient\_id:INT [PK], category:char(255), name:char(255), protein:Decimal, carbo:Decimal, alcohol:Decimal, total\_fat:Decimal, sat\_fat:Decimal, cholestrl: Decimal, sodium:Decimal, iron:Decimal, vitamin\_c:Decimal, vitamin\_a:Decimal, fiber:Decimal, pcnt\_cal\_carb:Decimal, pcnt\_cal\_fat:Decimal, pcnt\_cal\_prot:Decimal, calories:Decimal)

Contain(recipe\_id:INT [PK] [FK to Recipe.recipe\_id], ingredient\_id:INT [PK] [FK to Ingredient.ingredient\_id])

Quantity(quantity\_id:INT [PK], recipe\_id:INT [PK] [FK to Recipe.recipe\_id], ingredient\_id:INT [PK] [FK to Ingredient.ingredient\_id], max\_qty: Decimal, min\_qty: Decimal, unit: char(255), preparation: char(255))

The account can be a user account or a manager account.

User account can write recipe, one recipe is provided by exactly one user, a user can have multiple recipes.

User can like a recipe. One user can like many recipes. One recipe can have many users who like it.

User can write comment. A comment is written by exactly one user, and a user can write multiple comments.

Comments are made to recipe. There can be multiple comments on a single recipe. A comment is given to exactly one recipe.

A recipe contains many ingredients. And an ingredient can be used in many recipes. Each recipe contains at least one ingredient.

'Quantity' is a weak entity which depends on both recipe and Ingredient. Each recipe has at least one quantity tuple. The relationship between 'Quantity' and recipe is many-one. A recipe can have many ingredients and the quantity for each ingredient used in the recipe is stored in 'Quantity'. A quantity tuple can only be shown in exact one recipe because it is the amount of certain ingredient in certain recipe.

An ingredient can have multiple quantity tuples because there are different types of recipes that used the same ingredient. The quantity tuple can only represent exact one ingredient giving the fixed recipe and ingredient.