CIS 290
Chapter 6 Project

Specification:

You are working on a database with five tables. You will document the tables in DBDL, create an E-R diagram, and explain your assumptions. Ensure you mark alternate keys, secondary keys, and foreign keys properly when constructing your DBDL and E-R Diagram, and use the **IDEF1X** E-R model for your E-R diagram, marking weak and strong relationships.

The Word document you submit should have three sections:

1) DBDL definitions

Ingredient (IngredientID,IngredientName, StorageLocation, AllergenInfo)

AK: None

SK: IngredientName,StorageLocation

FK: None

RecipeID (primary key), RecipeName, CategoryName, Seasona

Recipe (RecipeId, RecipeName, CategoryName, Season)

AK: None

SK: RecipeName ,CategoryName, Season

FK: None

Restaruant(RestaurantID, RestaurantName,Address,ManagerName, YearOpened

AK: None

SK: RestaurantName,Address, ManagerName

FK: None

Served(RestaurantId, RecipeID, Cost)

FK: RestaurantId→Restaurant

FK: RecipeId → Recipe

AK: None

SK: None

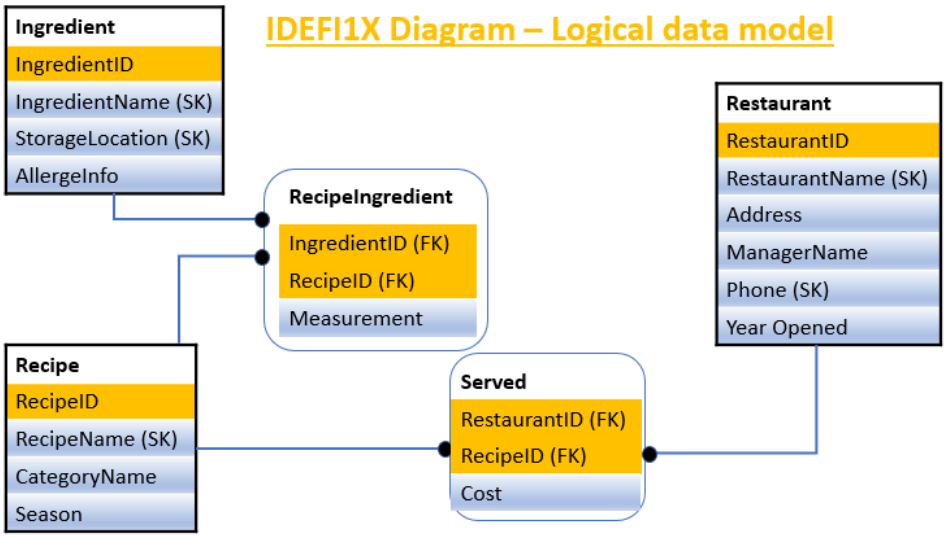
RecipeIngredient(IngredientId,RecipeId, Measurement)

FK: IngredientID→Ingredient

FK: RecipeID→ Recipe

SK: None

2)) E-R Diagram



Yellow Square represent Primary Key and composite Keys.
The Strong Line represent strong relationship.
Strong Entities are identified by solid border line. These are the entities that does not depend on any others to exist.
Weak entities are identified by round border line on the entities which need others tables to exist. These are dependent of others.

3) Explanations :

Ingredient table

Explanation: IngredientName, StorageLocation can be the secondary key since this provide a possible unique identifier. IngredientName count as secondary key only if the ingredients don't repeat by brand or others type of characteristic. Also, storage location can be used as possible identifier if the location of each ingredient is unique and used only for one ingredient at it time. AllergeInfo cannot be chosen to be any type of key since it provides a long information about the ingredient.

Recipe Table

Explanation: The only Seconday Key possible for this table is recipe name since the attribute recipeName can be used for a search or be used as an index on the table. CategoryName in a hypothetic scenario in which category name is saved in another table and use category as an FK on the recipe Table.

Restaurant Table

Explanation: RestaurantName ,addrees and manager name can be consider as secondary key or candidate key since are unique attribute on the row. However, the yearOpened attribute cannot be consider AK since many restaurants can be open their business at the same year. This attribute will be repeat it.

Served Table

Explanation: RestaurantID and RecipeId are the foreign key from the Restaurant and Recipe Table. AK and SK are not present in this table since the cost is a non-unique identifier. The cost is an attribute that can be repeated in many fields. The cost for a Recipe can vary from restaurant to restaurant or can be the same.

RecipeIngredient table

Explanation : IngredientId and RecipeId are the Foreign Key from Recipe and Ingredient table. Measurement is cannot be considered as SK since measurement cannot be a unique field for every row on the recipeIngredient table.