Anthony Powell

anjopowe

A290-SQL

4/22/2015

**Assignment 2**

***Part I***

**recipe\_classes** **recipes**

RecipeClassID (PK) RecipeID (PK)

RecipeClassDescription RecipeTitle

RecipeClassID (FK) [recipe\_classes]

Preparation

Notes

**measurements** **recipe\_ingredients**

MeasureAmountID (PK) RecipeID (FK) [recipes]

MeasurementDescription RecipeSeqNo

IngredientID (FK) [ingredients]

MeasureAmountID (FK) [measurements]

Amount

**ingredient\_classes** **ingredients**

IngredientClassID (PK) IngredientID (PK)

IngredientClassDescription IngredientName

IngredientClassID (FK) [ingredient\_classes]

MeasureAmountID (FK) [measurements]

***Relationships***

Recipe\_classes -> Recipes : one to many

Ingredient\_classes -> Ingredients : one to many

Measurements -> Ingredients : one to many

Measurements -> Recipe\_ingredients : one to many

Recipes -> Recipe\_ingredients : one to many

Ingredients -> Recipe\_ingredients : one to many

***Part II***

1. SELECT IngredientName

FROM `ingredients`

WHERE IngredientClassID = 8

UNION

SELECT IngredientName

FROM `ingredients`

WHERE IngredientName LIKE ‘%Wine%’;

2. SELECT RecipeTitle, Preparation, Notes

FROM `recipes`

WHERE RecipeClassID = 1;

3. SELECT IngredientName

FROM `ingredients`

WHERE IngredientName LIKE ‘%Lettuce%’;

4. SELECT IngredientName

FROM `ingredients`

WHERE IngredientClassID = 2 OR IngredientClassID = 10;

5. SELECT t1.c AS NumberOfIngredients, RecipeTitle, Preparation, Notes

FROM (SELECT RecipeID, COUNT(\*) AS C

FROM `recipe\_ingredients`

GROUP BY RecipeID) as t1, `recipes`

WHERE t1.RecipeID = recipes.RecipeID

ORDER BY t1.c;

6. SELECT DISTINCT MeasurementDescription

FROM `measurements`

WHERE MeasureAmountID IN (SELECT MeasureAmountID

FROM `recipe\_ingredients`

WHERE RecipeID = 5);

7. SELECT RecipeTitle, Preparation, Notes

FROM `recipes`

WHERE RecipeID IN (SELECT RecipeID

FROM (SELECT RecipeID, COUNT(\*) AS c

FROM `recipe\_ingredients`

GROUP BY RecipeID) as t1

WHERE c < 5);

8. SELECT DISTINCT A.RecipeID

FROM `recipe\_ingredients` A

WHERE A.RecipeID IN (SELECT B.RecipeID

FROM `recipe\_ingredients` B

WHERE B.RecipeID IN (SELECT C.RecipeID

FROM `recipe\_ingredients` C

WHERE A.RecipeID = B.RecipeID

AND B.RecipeID = C.RecipeID

AND A.IngredientID != B.IngredientID

AND A.IngredientID != C.IngredientID

AND B.IngredientID != C.IngredientID))

GROUP BY A.RecipeID;

9. SELECT RecipeID

FROM (SELECT RecipeID, COUNT(\*) AS c

FROM `recipe\_ingredients`

GROUP BY RecipeID) as t1

WHERE c >= 3;

10. SELECT IngredientName, RecipeID

FROM `ingredients`

LEFT OUTER JOIN `recipe\_ingredients`

ON ingredients.IngredientID = recipe\_ingredients.IngredientID

ORDER BY IngredientName;