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Relational Schema and Refinement – CSC 545

Relational Schemas:

recipe(ID, name, instructions, category)

mealPlan(ID, type, date)

fridge(ID)

food(ID, name, group, calories, sugar, protein, sodium, fat, cholesterol, carbs)

recipeMealPlan(recipeID, mealPlanID)

fridgeFood(fridgeID, foodID, quantity)

recipeFood(recipeID, foodID, quantity)

Functional Dependencies:

(N/A if there are no non-trivial functional dependencies)

recipe: ID -> name, instructions, category

mealPlan: ID -> type, date

fridge: N/A

food: ID -> name, group, calories, sugar, protein, sodium, fat, cholesterol, carbs

recipeMealPlan: N/A

fridgeFood: fridgeID, foodID -> quantity

recipeFood: recipeID, foodID -> quantity

Refinement:

Our relational schemas are already in 3NF and therefore do not require any further refinements.

Justification:

As shown in the functional dependencies above, every attribute in each of our tables depend on only one key.