Project:

Application Architecture With JDBC and Python

You may work on these problem sets together (citing your collaborators), but the write up must be your own.

Design a simple holiday meal planning application that allows a user to plan their holiday party menu. You will be using the meal planning database for this application. You do not need to change the database schema for this project.

You must provide the following functionality to the user:
- a. (5 Points) Allow a user to select a cookbook from a list of cookbooks
- b. (5 Points) Allow a user to select a recipe from a particular cookbook
- c. (5 Points) Allow a user to see what ingredients are needed for a particular recipe
- d. (10 Points) Allow a user to save a recipe to their family's holiday party **menu**.
    - i.   The menu will be a data structure you create and maintain in your application code. Your data structure must store the following:
        1. The recipe's name
        2. The cookbook or website the recipe can be found in
        3. The ingredients used in the recipe
        4. The course the recipe will be served during (breakfast, lunch, dinner, dessert, ect)
- e. (10 Points) Generate and display a **shopping list** for their holiday menu
- f. (5 Points) Generate and display the **holiday menu**

Your program must make use of the application architecture principles we discussed in class:
- (10 Points) A **presentation layer** for interacting with the user
    - ○ Your program does not need to implement a graphical or web based front end, but if you find that easier to manage then a text-based application, feel free.
- (10 Points) The **business logic layer**
    - ○ This must contain a holiday party menu object
    - ○ Consider adding another objects/classes as needed
- (30 Points) A **DAL** for interacting with the database
    - ○ A separate class for managing database access
    - ○ Data retrieved from the database must be parsed into data structures by the DAL
        - ■ ***Do not use Java ResultSets or Python Cursors outside the DAL!***
    - ○ Your DAL may contain as many classes as you would like, keeping in mind that each class should serve a distinct purpose
- (10 Points) All database access in the DAL must make use of **stored procedures or functions.**