CSCI 4370: Project 1: Spring 2024

Please check the following Piazza link for the **due date**:
https://piazza.com/class/lr4e0137ysv8v/post/21

In this project you will implement a set of relational algebra operators by developing on top of a set of provided Java classes and interfaces. Please follow the comments in the given code to implement the operators. Do your implementations in a package with the name uga.cs4370.mydbimpl

Please find the starter code here:
https://outlookuga-my.sharepoint.com/:f:/g/personal/sm19812_uga_edu/Ej-tZ9rtCKVBq5uzOBw6SOcBNVaPaEV_JUjr8FzLOrfwBg?e=63NUAi

Note: Some details are intentionally left out for the students to figure out the best approach by discussing with the team members. However, students should meet all explicitly specified requirements to receive points. Please ask if you have any doubts.

Please note the following points:

- This is a group project.
    - You should work with your team members from the teams you created on Piazza to complete this work.
    - All team members are expected to equally contribute to the project.
    - Each team member is fully responsible for the timely completion of the project. Some team members not working is not a valid excuse for not completing the project on time.
- You must implement the provided Java interfaces and use the provided classes.
- You should not modify any provided code without explicit written permission from the instructor. Doing such changes will make it impossible to grade your project and will result in a grade of 0.
    - You are allowed to modify the given Driver class.
- You can include additional private methods in the implementing classes as needed.
- Your implementation must use the interfaces as types whenever it is possible instead of using concrete implementing classes as types.
- You can not use any external libraries in this project.
- You can use Java built in data structures.

After completing the implementation, follow the steps below to demonstrate your relational algebra evaluation engine.

- Use the existing Driver class with a main method in uga.cs4370.mydbimpl package.
- Print five interesting queries in english.
    - These queries should use tables and data from the 'uni_in_class' database.

    - You can modify and use the queries from the in class activities.
- Implement each query using the relational algebra engine that you implemented and print the resulting relation.
    - Each team member should contribute at least 1 query and its corresponding relational algebra query implementation.
    - Each query must have operation compositions and should use more than one table.
    - Adjust the queries and their predicates as needed to make sure that the results are not empty and also not greater than around 50 rows.

The work should be done in the groups you created on Piazza. Only the **group representative** should submit the completed work on **eLC**. Create a zip file of your working code and submit it with a README file that explains how to run your program. Please include your team member names and group number in the README. List what each team member contributed under their name in the README.

Group member contribution: Please follow the instructions from the following link to assess group member contributions before submitting the work on eLC.
https://piazza.com/class/lr4e0137ysv8v/post/22

The assignment accepts late submissions as explained on the syllabus on eLC.

Note: If you modify the provided code or do not follow the instructions, we may not be able to grade your project. Projects that do not compile can not be graded and will result in a 0.

Please remember the academic honesty policy for the course. You are not allowed to publish or store the assignments or the solutions in places accessible to others.

Note: If you have any questions, please post on Piazza.