The following is the analysis of the requirements given previously

-Project will need a GUI login and display screen containing the following:

-Username field

-Password field

-Login Button

-Close/Cancel Button

-Login button will put you at the second GUI screen it will display the following information:

-Which window you are shown next will depend upon your position in the university: student, or administrator.

-All personal data about the student (or administrator):

-Full name

-Student ID

-GPA Calculation

-Will have buttons for the following:

-Log out

-A button labeled 'course info' that will move user to different GUI window with the following information:

-Course Names

-Course ID

-Professor Name

There will need to be a database with the following tables:

-Person Table with the following columns:

ID(PK)

Name

Job(Student/Administrator)

Course ID(FK)

-Course Table with the following columns:

Course ID(PK)

Course Name

Professor

Student ID(FK)

-Grades

TestID(PK)

Grade

CourseID(FK)

The database connector class will have the following functions to pass to the various GUI windows:

-deleteStudent

-insertStudent

-getGrades

-calculateGPA

-getJob (for determining which GUI user is sent to)

-getConnection

The only algorithm to be used will be the GPA calculation it will be tied to the module that runs the algorithm.

A module to connect to the database will be necessary and will contain functions to create the connection, another function to check for

Name comparison and after that has been passed, a function will be passed to see if the password matches.

Another will be necessary to deal with the login process. It will read the input at the front GUI: username and password then be passed to the above module for checking in the database.

Another will be needed to bring up the second screen, which will show full name, ID and the calculated GPA. There will be a button that puts you to the 3rd and final GUI window showing courseNames courseID and professorName. All GUI's beyond the login screen will have a

logout button.