*Database Initialization*

Upon opening the VacPac application, we must check whether or not a database object already exists. If no database currently exists, we must use a series of JDBC commands to create a fresh database object that includes predefined login credentials and access privileges of one admin user. These credentials must be encrypted for security. Use SQL to populate and create the necessary tables from XML data, not forgetting to include the distinct attributes of every table. Use constraints where possible when using SQL to ensure data integrity. If anything goes wrong, the program must immediately prompt the user.

Once the database has been created, we must prompt the user for login credentials. After the user has given username and password inputs, verify each input with the encrypted data stored in a table within the database. In case this is a new user, for example after a fresh database object creation, always give the option to create new general user credentials, afterward updating the database with these credentials by creating another row in the users table. Every newly created user will have generic user privileges. All input in the case of a new user must also be encrypted before being stored in the database.

After the user has successfully logged in, we must give them the option to import personalized or general data from previous sessions regardless of whether or not they are an admin or general user. This imported data must be checked to validate that all the data included in the import is useable considering the data formats and constraints included in each table. In case the imported data is an invalid import, the program must immediately prompt the user. If data is successfully imported, maybe we can have the program create one new rewriteable table TEMPIMPORT with all of the imported information or maybe create a series of tables with the imported information depending on how the data is structured.

*Classes & Functions* – Incomplete

1.) Database check class. Initial database creation function. Predefined admin user info included. Send admin user info to > login verification class > encryption function.

2.) Login verification class. Encryption function. Verification function. Database update for new users function.

3.) Import class. Check imported data for proper format function. Includes error-handling. Update a temporary space with data imported function.