

Lab Assignment 5: Developing database applications using JDBC.

Student: _____

Due Date: Week 12.

Purpose: The purpose of this Lab assignment is to:

- Practice JDBC in Java Applications
- Develop a GUI Java application with data access capabilities

References: Read the course's text, ppt slides and class examples. This material provides the necessary information you need to complete the exercises.

Instructions: Be sure to read the following general instructions carefully:

- Students can work in pairs for this assignment using **pair programming** technique (https://en.wikipedia.org/wiki/Pair_programming).
- You will have to demonstrate your solution in a scheduled lab session and submitting the project through the **dropbox link on eCentennial**.
- You must name your Eclipse project according to the following rule:

YourFullName_COMP228Labnumber

Example: **JohnSmith_COMP228Lab5**

Each exercise should be placed in a separate package named *exercise1*, *exercise2*, etc.

Submit your assignment in a **zip file** that is named according to the following rule:

YourLastName_COMP228Labnumber.zip

Example: **JohnSmith_COMP228Lab5.zip**

For a pair submission include both full names. Example:

JohnSmith_JaneSmith_COMP228Lab5

Apply the naming conventions for variables, methods, classes, and packages:

- *variable names* start with a *lowercase* character
- *classes* start with an *uppercase* character
- **packages** use only *lowercase* characters
- *methods* start with a *lowercase* character

Exercise 1:

Develop a GUI Java application that will allow the players to submit information about themselves and the games that they are playing on-line. The information will be stored in a simple Oracle database. The database tables are as follows:

Player:

Player_id [primary key]
First_name
Last_name
Postal_code

Game:

Game_code [primary key]

PlayerAndGame:

Player_id
Game_code

You can use SQL Developer to create your database in Oracle server.

You should pre-populate the table *Game* with game_code. A player may have one or more game_code.

Your GUI should provide the necessary SWING or JavaFX components that will allow the user to enter and display the data. You will use JDBC to provide the following functionality:

Use prepared statements to implement all database operations.

Evaluation:

Functionality	Option	Max marks
<ol style="list-style-type: none">1. Insert player information along with his/her games into the database.2. Query – to retrieve player and his/her games using player_id3. Update player's details (without updating games)4. Provide a 'reset' button that will clear all UI elements5. Provide a 'report' button that will query DB for all players with last_name that was entered by user and display all players in a text area. No need to display games.6. Close database connections etc. when window is closed	Required	80%
Update player's details along with his/her games. Player may change, add, remove games.	Optional	20%