Java Programming  
  
Report #2: Java IO/Databases  
Your project name

**Class : 19CLC-KTPM2**

|  |  |
| --- | --- |
| **Your group**: | **Full name 1 – Student ID 1**  **Full name 2 – Student ID 2**  **Full name 3 – Student ID 3** |

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# Revision History

[*Provide in this section a revision history table. A such sample table is given below*]

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Version** | **Description** | **Author** |
| <dd/mmm/yy> | <x.x> | <details> | <name> |
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|  |  |  |  |
|  |  |  |  |

# Individual Contributions Breakdown

[ The contributions breakdown must contain the responsibility matrix and responsibility allocation chart. Each student should provide an itemized list of his or her contributions to components of the report.

If several students contributed to a particular component, quantify, as a percentage, each student’s contribution this component.

If you find it unnecessary and tedious to quantify details of your work, and if all team members agree that everyone genuinely contributed to the success of their project, it is acceptable that you just write “All team members contributed equally” instead of a detailed breakdown. ]

All team members contributed equally

# Introduction

*[You present in this section the the purpose of your report, explain how you store your application's data (either in files or a database management system), give the reason for your choice.*

*]*

This report is created in order to show the way my team stores and loads application's data, how we design the data structure after analyzing application's requirements and show sample data structure that can be used to test the application later. This report also provides the result my team has achieved, the contribution of each member and the detailed plan for the rest of the project.

We store application's data in a database management system. With this method, data is stored and used efficiently while ensuring security. Database management system connect to Java through JDBC (Java Database Connectivity). JDBC library includes APIs for the following tasks:

* Connect to databases
* Create SQL or MySQL statements
* Execute SQL or MySQL queries in the database.
* View and modify the resulting records.

These tasks allows us to import data from database management system and export data to database management system. Moreover, my team has the basics of database management thanks to the Database course. So, storing data using a database management system is our choice for this project.

# Analysis and design

*[ Present what information should be stored in your application.*

*Present in detail how you organize your data. For example:*

*• If you use the files to save/load your data, then indicate the type of the file (a plain text file, XML, JSON, etc.) and the format / schema of your data.*

*• If you are using a database management system, then indicate the name of the system you are using, design the data structure and show the relationships between tables, and so on.*

*]*

# Implementation

*[ Explain in this section how you load data information from input file or save data to output file / how you connect with database to load, edit or delete information etc. using Java]*

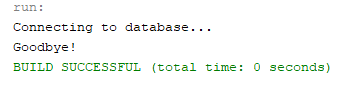
There are a few steps to make a connection to the database using Java:

* Setup JDBC environment
  + Install Database: MySQL
  + Install Database Drivers: Add mysql-connector-java-8.0.27.jar to project
  + Set Database Credential: Username and password
* Implement the JDBC programming procedure
  + Load the database driver: Class.forName("com.mysql.jdbc.Driver");
  + Obtain a connection: DriverManager.getConnection(String url); or DriverManager.getConnection(String url, Properties prop) or DriverManager.getConnection(String url, String user, String password);
  + Create and execute statements (SQL queries): Statement or PreparedStatement and its methods
  + Use result sets (tables) to navigate through the results: ResultSet and its methods
  + Close the connection: close();

Example:

Ảnh có chứa văn bản

Mô tả được tạo tự động



# Sample data

*[Provide here sample data structure that you designed in the previous section. This is the data you can you to test your application later ... ]*

# Result

*[Explain what you have achieved until now (for both this report and code source) , advantages, disadvantages and planned solutions (if possible)]*

During the two weeks of programming code & writing this report, we have analyzed the project requirements in detail and come up with the suitable data structure for our application. We also select a database management system called MySQL. With this system, data is secure and conveniently accessible through queries. Thanks to the database diagram and MySQL, we have solved many problems about storing, retrieving data and completed some parts of the project. Although we had to spend time for the deadlines of other courses, all members tried their best to to complete this report. With our project properly planned out, we will develop the application in the best way.

# Plan

*[Give your project plan (in detail) until the end of the project: task decomposition, ressources allocation, duration of each task, etc.]*

# References

*[Provide all the resources to use in your project, including existing codes, algorithms used, books, reports, links, etc. ]*