CS157A

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Project Report-Books Database

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**Absolute UNIX pathname:**

None. We used MySQL to test our project, so we do not have an absolute UNIX pathname. Everything is done locally.

**Project Report**

This project was created for our CS157A (Database Management Systems) class. It is called the Books database, and deals mainly with making a database dealing with books. This database also handles the creation of tables related to books, the population of those tables with data, and executions of sample query statements.

On the first part of our project, we try to establish a connection to MySQL server through our Java source code. We do so by opening a connection with localhost, using port 3306 and username “root.” Our program also needs to detect the JDBC driver installed in our IDE, or whichever machine we ran the Java file from. In our case, we used Eclipse to run the Java code. Once we have established this connection, we will then be able to continue with the next step, which is creating the database.

We create the Books database by executing the statement, “CREATE DATABASE Books.” To ensure no duplication of the database creation, we initially drop the database if it exists. Once the database is created successfully, we will receive a success message, and we can proceed to the next step.

The next step is the table creations. For this project, we created four tables:

1. **authors**: table to handle authors’ information in the database. Each author has a unique authorID, and their informations are stored as their first and last names.
2. **authorsISBN**: table to handle the information of the authors’ unique ID numbers. The authors’ ID numbers are the same numbers that appears in the authors table.
3. **publishers**: table to take care of the publishers’ information. It contains the publishers’ names and publishers’ unique IDs.
4. **titles**: table to handle the book titles published. Book titles have unique ISBN, year they are published, publisherID, and price.

Once the tables are created successfully we will have a success message, and we will then be able to check if the tables were created by using the “show tables” operation/statement through MySQL. In our case, we check the existence of the tables using MySQL Workbench. A screenshot of our created tables is included in a separate printout.

The next step is to populate the table with data. We gathered data from an outer website and stored them in a .csv file. We then import the data from the file into a temporary array in our code, and we use those stored values to populate the tables with data. Now, each of our tables are populated with at least twenty-thirty lines of data.

After populating the tables, the next step is to execute some sample query statements as were stated in the project description:

1. Select all authors from the authors table. Order the information alphabetically by the author’s last name and first name.
2. Select all publishers from the publishers table.
3. Select a specific publisher and list all books published by that publisher. Include the title, year, and ISBN number. Order the information alphabetically by title.
4. Add new author.
5. Edit/update the existing information about an author.
6. Add a new title for an author.
7. Add a new publisher.
8. Edit/update the existing information about a publisher.

We executed each query statements with sample data, and all of them are run successfully. We prove this by checking the tables that we modified, and including screenshots of our query statement results on a separate printout.

Finally, after all the query statements are executed successfully, we then close the server connections and statements, and that is the end of our project.