

Bash_MySQL

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This project simulates some SQL functionalities like creating and deleting admins, databases, and tables or manipulating data with insert, select, and delete rows. In this report, we'll explain the functionality and assumptions made for each requirement.

All functions in the code are supposed to work correctly as required in the project description, any assumptions we made were stated in this readme.

1. Create User:

1. Checks if the current user is an admin signed in **DB_admins.db** file or the script will output **You're not an admin and don't have that privilege** and won't be able to add new admins.
2. After checking the current user is signed as an admin, the script asks for the username to be signed as an admin and checks it wasn't already added as an admin before then add it to the **DB_admins.db** file or else it will output the user is **already added**.

2. Delete User:

1. Same as create user with the same checks and validations but instead of adding the user to the **DB_admins.db** file it deletes it.
2. Oracle user can't be deleted.

3. Create Database:

1. Only admins in **DB_admins.db** file can create databases or it will output **You're not an admin and don't have that privilege**.
2. Databases are created under the Databases directory and each has a file containing the owner user to restrict access to the database.
3. The script checks that no database was created with the same name before or else it will output **This database already exists** and won't create anything.

4. Delete Database:

1. Same checks and validations, checks for the current user and whether the Database exists or not; if not, it outputs **Database Not Found**.
2. Additionally, only the owner of the database can delete it.
3. Also, the script lists all available databases for the user.

5. Create Table:

- Restriction:
 - To Be a signed admin in **DB_admins.db** as an admin
 - To Be the owner of the database you're creating the table in.
 - Table name wasn't created before
- Functionality:
 - Lists the available databases
 - Checks the owner
 - Asks for table name and number of columns
 - Checks for table name and asks for the names of the columns
 - Create a .table file with the column names separated by a comma.

6. Insert Row:

- Restriction:
 - To Be a signed admin in **DB_admins.db** as an admin
 - To Be the owner of the database you're inserting the row into.
 - To not violate the primary key (checks for duplicate values)
- Functionality:
 - Lists the available database
 - If you're the owner, it lists the tables in the database you chose
 - Asks for the value of each column Successively
 - If the PK is duplicated, outputs (Duplicated PK) and won't insert the record
 - If not duplicated, it takes each column separately and records the row comma-separated.

7. Select Rows:

- Restriction:
 - To Be a signed admin in **DB_admins.db** as an admin

- Any admin can select rows from any database (and any table) not necessarily the owner of the database.
 - In case of the keyword search, to not enter an empty keyword
- Functionality:
- Choose the Database and then the table you want to select the data from.
- Asks whether you want to select all data in the table or search the rows with a specific keyword.
- The search option is case-insensitive and looks for the exact match.

8. Delete Rows:

- Restriction:
 - To Be a signed admin in **DB_admins.db** as an admin
 - To Be the owner of the database you're deleting the rows from.
 - To not enter an empty keyword
- Functionality:
- Lists the available database.
- If you're the owner, it lists the tables in the database you chose.
- Asks for a search keyword.
- Deletes any row containing the delete keyword.
- The delete keyword is case-sensitive and deletes the exact match.