**Using Various Databases for Containerization**

**Part 1:**

The screenshot shows the "Final\_Assignment\_Module\_12" folder opened in Visual Studio Code (VS Code). It confirms that the user successfully accessed the folder.

A screenshot of a computer program

Description automatically generated

**Part 2:**

The screenshot shows the Terminal window in VS Code after running the command to initialize the driver. It indicates that the driver initialization was successful.

A screenshot of a computer

Description automatically generated

The first screenshot shows the modified **create.py** file in VS Code. The code defines data entries for a database related to the user's choice (e.g., geology data). The data includes three entries, such as rock names, rock types, and descriptions. In the next screenshot, the code is run.

A screen shot of a computer program

Description automatically generated

A screenshot of a computer screen

Description automatically generated

The next screenshot displays the Terminal window after running the correct commands to insert data into the created database. The Terminal output shows that the data was successfully inserted into the database.

A computer screen shot of a black screen

Description automatically generated

A screenshot of a computer program

Description automatically generated

The screenshot shows the Docker container creation command running in the Terminal window. The container is named "final\_assignment" and is using port 3300.

A computer screen shot of a blue screen

Description automatically generated

A screenshot of a computer

Description automatically generated

**Part 3:**

The screenshot indicates successful execution of the command to navigate to Part 3 of the folder in the Terminal window.

A screenshot of a computer

Description automatically generated

The first screenshot displays the Terminal window after running the command to create a Redis Docker container. The container is named "final\_assignment\_part3" and uses port 6379.

A screenshot of a computer screen

Description automatically generated

A screenshot of a computer

Description automatically generated

The screenshot shows the code in the **write.py** file, where the Redis method **mset** is used to create a dictionary named "r" with keys "Milk" and "Bread," and corresponding values "Lactose" and "Gluten."

A screen shot of a computer program

Description automatically generated

The screenshot shows the Terminal window after running the **write.py** file, confirming that there are no syntax errors in the code.

A blue screen with white text

Description automatically generated

The screenshot displays the code in the **read.py** file, where the Redis method **get** is used to read all values from the "r" dictionary.

A screen shot of a computer program

Description automatically generated

The screenshot shows the Terminal window after running the **read.py** file, confirming that the code correctly prints the dictionary values "Lactose" and "Gluten."

A screenshot of a computer program

Description automatically generated

**Part 4:**

The screenshot verifies the successful execution of the command to navigate to Part 4 of the folder in the Terminal window.

A blue screen with white text

Description automatically generated

The screenshot displays Firebase in the web browser, showing the creation of a new project named "Assignment-Module12."

A screenshot of a computer

Description automatically generated

The first screenshot showcases the Firebase console page where the user obtains permissions to write from Python to the database and downloads the private key in JSON format.

A screenshot of a computer

Description automatically generated

The second screenshot shows the contents of the **serviceAccountKey.json** file in VS Code, indicating that the user successfully copied the private key.

A screenshot of a computer

Description automatically generated

The screenshot shows the Firebase console page with an empty Realtime Database, confirming that the user created an empty database.

A screenshot of a computer

Description automatically generated

The screenshot displays the **fire.py** file in VS Code, where the user updated the **databaseURL** field with the Firebase Realtime Database URL.

A screenshot of a computer program

Description automatically generated

The screenshot shows the updated **fire.py** file in VS Code, where the user edited two entries in the database, adding an extra field to the second entry.

A screenshot of a computer program

Description automatically generated

The screenshot displays the Terminal window after running the correct command to write data to the Firebase database, showing that the command ran without errors.

A blue screen with white text

Description automatically generated

The screenshot from Firebase showcases the database containing the written entries, confirming that the data was successfully written as expected.

A screenshot of a computer

Description automatically generated