**Performance Assessment: Data Acquisition (TGM1)**

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D205 Data Acquisition

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February 11, 2023

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# Performance Assessment: Section A

For section A of the performance assessment, the research question that was created was “How many of each internet services in the city of Miami, FL are there”. This research question involved the use of the tables *customer, services* and *location ;* the *services* table had the different internet services while the *location* table had information on the state and city. The *customer* table was used to link all of the information as it is the main table with four foreign keys that are used to link them. The original data set included *customer* and *location* while the added-on CSV file was *services.*

# Performance Assessment: Section B

## Question B1/B2

For this performance assessment, Visual Studio Code was used, and the tables were saved in pgAdmin version 6.15 via localhost connection. In order to create the table *services*, the following SQL code was used:

***Figure 1****: SQL Code for Services table creation*Graphical user interface, text, application

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After the table was created and verified in pgAdmin, the data from the CSV file had to be inserted. According to PostgreSQL documentation (The PostgreSQL Global Development Group, 2023), the generic code to insert data into a table is:

INSERT INTO products (product\_no, name, price) VALUES

(1, 'Cheese', 9.99),

(2, 'Bread', 1.99),

(3, 'Milk', 2.99);

and the pertinent code for the specific CSV file is:

**Figure 2**: SQL Code for CSV data insertion

A picture containing letter

Description automatically generated

The above code shows the generic SQL code for loading the add-on CSV file but due to the size of the CSV, the import/export function of pgAdmin was used.

**Figure 3**: Importing of CSV file into services table.

Graphical user interface, text, application

Description automatically generated

After loading the data from the add-on CSV file, an ERD diagram was created using the ERD tool in pgAdmin and following was created.

**Figure 4**: ERD Diagram

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# Performance Assessment: Section C

## Question C1

In order to answer the research of “How many of each internet services in the city of Miami, FL are there”, the following SQL code was used:

**Figure 5**: Research Question SQL Code

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and the results of the query are the following:

**Figure 6**: Query Results

Table

Description automatically generated

# Performance Assessment: Section D

In database design, there are two main types of data processing mainly online analytical processing (OLAP) and online transaction processing (OLTP) (Sinha, 2021). For this specific question and database since we are analyzing data after-the-fact and not in real-time, OLAP would be the best fit. Moreover, the amount of time the add-on file should be updated weekly or monthly, depending on how often the analysis for business decisions are made.

# Performance Assessment: Section E

Similar to Section B2, the generic SQL script to load the add-on data to the table is shown below, the just as stated in section B2, the import/export function of pgAdmin was used due to the number of rows in the add-on CSV file.

**Figure 7**: SQL Code for loading add-on data

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# References

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The pgAdmin Development Team. (2022, December 14). *Documentation.* Retrieved February 2023, from Support: https://ftp.postgresql.org/pub/pgadmin/pgadmin4/v6.18/docs/pgadmin4-6.18.pdf

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