**Data Engineer Course Entry Test – SQL**

This file contains the expected results of analytical queries from question 5

**Question 5.1:**

Analyze accommodation type popularity and revenue:

- Calculate the total number of bookings (non-cancelled) for each accommodation type

- Show the percentage of total bookings for each type

- Include average length of stay

- Calculate total revenue for each type (TotalRevenue = PricePerNight \* NumberOfNights - DiscountAmount).

- Show if the revenue is above or below the overall average

- Sort by total revenue in descending order

Expected result:

A table with numbers and text

Description automatically generated

**Question 5.2:**

Create a comprehensive accommodation rating analysis:

- Show accommodations with average rating above 4

- Include the number of reviews for each accommodation

- Calculate and show the average rating of the corresponding accommodation type

- Show how much each accommodation's rating deviates from its type's average

- Sort by average rating in descending order, difference from type average in descending order, accommodation ID in ascending order

Expected result:

A screenshot of a computer

Description automatically generated

**Question 5.3:**

Which province has the most accommodations?

- List the number of accommodations for each accommodation type as well as the total number of accommodations in each province

- Show the province name, accommodation types as column names (Homestay, Villa, etc.), and the total number of accommodations

- Sort by the total number of accommodations in descending order

Expected result:

A grid of numbers and symbols

Description automatically generated

**Question 5.4:**

Write a stored procedure for an accommodation search system:

   - Create a stored procedure `search\_accommodations` that takes these parameters:

     \* Required capacity (number of guests)

     \* Required amenities (optional, comma-separated amenity IDs)

     \* Required facilities (optional, comma-separated facility IDs)

   - The procedure should return:

     \* Accommodation details (AccommodationID, AccommodationName, AccommodationType, PricePerNight, Capacity, NumberOfRooms)

   - Execute the procedure with:

     \* Required capacity: 18

     \* Required facilities: 'F10,F02' (Facilities for disabled guests, Airport Transfer)

     \* Required amenities: 'A12' (Pets allowed in room)

Expected result:

A screenshot of a computer

Description automatically generated

**\*Bonus:**

Alternatively, if you can modify the procedure to return the query result in this format, you will be awarded extra points (Include 2 more columns to list all the available Facilities and Amenities in each Accommodation)

