**Introduction to Data Management: Assignment 4**

**Group Members:**

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**Problem Statement:**

Based on the database for customers and reservations created in the last assignment, we are now identifying trends and patterns amongst the customers and their reservation histories using the script provided. Post this, we have used subqueries to extract parts of database, as required for the analysis.

**Tasks & Methodology:**

1. Used a select statement to obtain the count of customers and then the MIN and MAX functions to obtain the maximum and minimum stay credits from the customer table
2. Used an Inner Join to find the number of reservations and earliest check-in date by customer ID
3. Used Group By to find the average credits earned based on City and State in order to find the states we are most popular in
4. Used Inner Join on Customer ID, Reservation ID and Room ID to find stay counts at the South Austin location and note if a customer had multiple stays in the same room
5. Using the same method as 4, added a filter for completed stays and stay count > 2
6. Created a report that shows number of guests by location and check-in date for future check-in dates. Used ROLLUP operator to provide subtotal by location
7. Using Left Join and the Having clause to find common features across all 3 locations
8. Using a subquery to get the list of customer\_ids in reservation table and then, writing a query to find the customers with IDs not present in the list.
9. Finding the average stay credits and then obtaining all customer records with above average stay credits in descending order
10. Finding stay credits used and remaining for customers by State and City. Then using in-line join to obtain credits remaining in descending order
11. Using a subquery, extracted confirmation\_nbr, date\_created, check\_in\_date, status, and room\_id of each reservation for a room that has less than 5 reservation\_detail records. Filtered to remove all completed reservations
12. Using an in-line view (subquery in FROM clause), extracted cardholder\_first\_name, cardholder\_last\_name, card\_number, expiration\_date, and cc\_id from Customer\_Payment table where the customer has 1 completed reservation and uses a Mastercard so we can offer the customer a $10 credit on their credit cards for their first stay at our hotel.