

## ASSIGNMENT 2

**Write query to return the following:**

- 1. Write a query to join all these tables.**

```
SELECT *
FROM dbo.[User] u
JOIN dbo.Hotel h ON u.UserId = h.UserId
JOIN dbo.Branch b ON h.HotelId = b.HotelId
JOIN dbo.Employee e ON b.BranchId = e.BranchId
JOIN dbo.Customer c ON b.BranchId = c.BranchId
JOIN dbo.Booking bk ON b.BranchId = bk.BranchId
JOIN dbo.RoomType rt ON rt.UserId = u.UserId
JOIN dbo.Room r ON rt.RoomTypeId = r.RoomTypeId
JOIN dbo.[Service] s ON s.UserId = u.UserId
JOIN dbo.[Transaction] t ON t.CustomerId = c.CustomerId AND t.BookingId =
bk.BookingId AND t.ServiceId = s.ServiceId
JOIN dbo.Invoice i ON i.InvoiceId = t.InvoiceId;
```

- 2. Recently added 5 Services and Rooms.**

```
SELECT TOP 5 *
FROM dbo.[Service]
ORDER BY InsertDate DESC;
```

```
SELECT TOP 5 *
FROM dbo.[Room]
ORDER BY InsertDate DESC;
```

**3. Customers having total amount of invoice less than 5000.**

```
SELECT c.CustomerId, c.FirstName, c.LastName
FROM dbo.[Customer] c
INNER JOIN dbo.[Transaction] t ON c.CustomerId = t.CustomerId
GROUP BY c.CustomerId, c.FirstName, c.LastName
HAVING SUM(t.Total) < 5000;
```

**4. List of customers whose invoice is still pending.**

```
SELECT c.CustomerId, c.FirstName, c.LastName
FROM dbo.[Customer] c
LEFT JOIN dbo.[Invoice] i ON c.CustomerId = i.CustomerId
WHERE i.InvoiceId IS NULL;
```

**5. Customers having the highest and lowest invoice amount.**

```
SELECT c.CustomerId, c.FirstName, c.LastName, t.Total AS TransactionAmount
FROM dbo.[Customer] c
JOIN dbo.[Transaction] t ON c.CustomerId = t.CustomerId
WHERE t.Total = (
    SELECT MAX(Total) FROM dbo.[Transaction]
)
OR t.Total = (
    SELECT MIN(Total) FROM dbo.[Transaction]
);
```

**6. Show customer name in format LastName, FirstName MiddleName.**

```
SELECT
    c.CustomerId,
    CONCAT(c.LastName, ' ', c.FirstName) AS CustomerName
FROM dbo.[Customer] c;
```

**7. Select the list of customers who reserved more than 3 rooms.**

```
SELECT
    c.CustomerId,
    CONCAT(c.FirstName, ' ', c.LastName) AS CustomerName
FROM dbo.[Customer] c
JOIN dbo.[Booking] b ON c.CustomerId = b.CustomerId
GROUP BY c.CustomerId, c.FirstName, c.LastName
HAVING COUNT(DISTINCT b.RoomId) > 3;
```

**8. Total amount of the invoice for each customer.**

```
SELECT
    c.CustomerId,
    CONCAT(c.FirstName, ' ', c.LastName) AS CustomerName,
    SUM(t.Total) AS TotalInvoiceAmount
FROM dbo.[Customer] c
JOIN dbo.[Invoice] i ON c.CustomerId = i.CustomerId
JOIN dbo.[Transaction] t ON i.InvoiceId = t.InvoiceId
GROUP BY c.CustomerId, c.FirstName, c.LastName;
```

**9. List of services that are never taken.**

```
SELECT s.ServiceId, s.ServiceName
FROM dbo.[Service] s
LEFT JOIN dbo.[Transaction] t ON s.ServiceId = t.ServiceId
WHERE t.ServiceId IS NULL;
```

**10. List of customers with each transaction with their cumulative sum of amount with respect to each customer.**

```
SELECT c.CustomerId, c.FirstName, c.LastName, t.TransactionId, t.Total,
SUM(t.Total) OVER (PARTITION BY c.CustomerId ORDER BY t.TransactionId) AS
CumulativeAmount
FROM dbo.[Customer] c
INNER JOIN dbo.[Transaction] t ON c.CustomerId = t.CustomerId
ORDER BY c.CustomerId, t.TransactionId;
```