Hospital Operations & Financial Analysis Report

SQL Portfolio Project

1. Project Overview

This project analyses a healthcare dataset using **PostgreSQL** to identify operational bottlenecks and financial trends. The analysis focuses on patient volume, departmental efficiency (stay duration), and monthly expenditure.

2. Data Architecture

The data was imported into a structured table named details with specific data types to ensure precision in financial calculations and date-based tracking.

3. Key Insights & SQL Solutions

A. Operational Efficiency (Patient Stay)

Business Goal: Identify how many days patients stay in each department to manage bed capacity.

SQL

```
SELECT department, ROUND(AVG(dischargedate - admissiondate), 2) AS stay_duration
FROM details
GROUP BY department;
```

B. Financial Reporting (Monthly Trends)

Business Goal: Track spending habits across the year to identify peak cost months.

SQL

```
SELECT EXTRACT(MONTH FROM AdmissionDate) AS month_number,
    SUM(MedicalExpenses) AS total_monthly_expenses
FROM details
GROUP BY month_number
ORDER BY month_number;
```

C. Patient Volume Tracking

Business Goal: Identify top-performing hospitals and departments by patient count.

SQL

```
SELECT hospital_name, SUM(patientscount) AS total_patients
FROM details
GROUP BY hospital_name;
```

4. Conclusion

The analysis successfully identifies that certain months experience higher financial pressure and that stay durations vary significantly by department. These insights allow hospital management to allocate staff and budgets more effectively.