HOSPITAL DATA ANALYSIS

INTRODUCTION:

Healthcare organizations generate large volumes of data related to patients, doctors, departments, and treatment costs. Analysing this data helps in understanding patient trends, department performance, and overall hospital efficiency.

This project uses **Power BI** to analyse a hospital dataset and create an **interactive dashboard** that provides meaningful insights for decision-making.

PROJECT OBJECTIVES:

The main objectives of this project are:

- To analyse patient data across different hospital departments.
- To understand patient demographics such as gender distribution.
- To evaluate treatment costs and length of stay.
- To present insights using an interactive Power BI dashboard.

DATASET DESCRIPTION:

The dataset contains hospital-related information with 1500 rows and 14 columns.

Each row in the dataset represents a **single patient record**.

Key Columns Used

Column Name	Description
Patient ID	Unique identifier for each patient
Doctor ID	Unique identifier for each doctor
Department	Hospital department
Gender	Gender of the patient
Admission Date	Date of patient admission
Treatment Cost	Cost incurred for treatment
Length of Stay	Number of days patient stayed in hospital

DATACLEANING AND PREPARATION:

The following data cleaning steps were performed using **Power Query**:

- Removed duplicate patient records
- Checked and handled missing values
- Standardized categorical values such as Gender and Department
- Converted columns to appropriate data types (Date, Numeric, Text)

These steps ensured accuracy and consistency in analysis.

KEY ANALYSIS AND VISUALIZATIONS:

DAX Measures Created:

The following measures were created using DAX:

- **Total Patients** – Counts the total number of patients
- **Total Doctors** – Counts distinct doctors
- **Average Treatment Cost** – Calculates average cost per patient

These measures are used across multiple visuals in the dashboard.

Dashboard Visualizations:

The dashboard consists of the following key visuals:

KPI Cards

- Total Patients
- Total Doctors
- Average Treatment Cost

Charts

- **Stacked Column Chart** – Patients by Department.
- **Donut Chart** – Gender Distribution.
- **Line Chart** – Patient Admissions Over Time.
- **Stacked Area Chart** – Average Treatment Cost by Department.
- **Pie Chart**–Patients by City.
- **Funnel Chart**–Length of Stay by Diagnosis.

Filters (Slicers)

- City.
- Gender.
- Payment mode.

These slicers allow users to interactively filter and explore the data.

CONCLUSION:

The Hospital Data Analysis project successfully converts complex healthcare data into a clear and interactive dashboard. This project highlights skills in **data cleaning, DAX, visualization, and business analysis**.