📋 Teco Customer Churn Analysis – What I Have Done

🧠 What is this project about?

This project focuses on analyzing customer churn for Teco, a telecom company. Churn refers to customers leaving the company. The goal is to understand patterns in the data that lead to churn.

🛠️ What I have done:

1. **Data Loading and Initial Exploration**:
    - Imported necessary libraries like pandas, numpy, matplotlib, seaborn.
    - Loaded the dataset into a pandas DataFrame.
    - Checked the first few rows using `.head()` and explored the basic structure using `.info()` and `.describe()`.
2. **Data Cleaning and Preprocessing**:
    - Identified and handled missing values.
    - Replaced empty or invalid entries where needed.
    - Converted appropriate columns to numeric types if required.
    - Encoded categorical variables to prepare data for analysis (for example, using Label Encoding).
3. **Exploratory Data Analysis (EDA)**:
    - Visualized distributions of features like `MonthlyCharges`, `tenure`, etc.
    - Used count plots to analyze churn vs non-churn customers.
    - Analyzed relationships between churn and important variables like `Contract`, `InternetService`, `PaymentMethod`, and `tenure`.
    - Generated heatmaps to see feature correlations.
4. **Observations and Insights**:

- Customers with month-to-month contracts and higher monthly charges are more likely to churn.
- Tenure is negatively correlated with churn — shorter-tenure customers churn more.
- Certain payment methods are associated with higher churn rates.