📌 Week 1 – Task Breakdown  
1. **Dataset Understanding**

Review the three provided datasets:

**Applicant Data**

**Outreach Data**

**Campaign Data**

Study their **schema, field names, data types, and relationships**.

Example:

Applicant ID links with **Outreach Data**.

Campaign ID links with **Campaign Data**.  
  
  
  
  
2. **Exploratory Data Analysis (EDA)**  
Perform an initial analysis of the datasets to identify:

**Trends & Patterns** → seasonal changes, spikes, correlations.

**Anomalies** → outliers, incorrect values.

**Missing Values** → missing dates, IDs, statuses.

**Categorical Issues** → spelling mistakes, inconsistent categories.  
  
  
👉 Create **visualizations** (histograms, bar charts, scatter plots, heatmaps) and include **screenshots in the report**.  
  
  
3. **Data Cleaning**

Handle **missing values** (impute, remove, or flag).

Remove **duplicates** (e.g., same Applicant ID appearing multiple times).

Correct **inaccuracies** (typos, invalid phone numbers, wrong date ranges).

Apply **standardization** (date formats, text casing, numeric precision).

Perform **validation checks** to ensure data is consistent after cleaning.  
  
  
  
4. **PostgreSQL Setup**

Install and configure **PostgreSQL**.

Create a **new database**.

Import **cleaned datasets** into PostgreSQL.

Run **basic SQL queries** (e.g., SELECT, COUNT) and capture proof (screenshots/output).  
  
  
  
5. **Master Table Creation**

Integrate **Applicant Data, Outreach Data, and Campaign Data** using defined relationships.

Build a **Master Table** as the **single source of truth** for future visualizations.

Validate relationships (Primary Key, Foreign Key constraints).  
  
  
  
📑 Deliverables (Submission Requirements)  
Submit a **single combined PDF** containing:

**EDA Report**

Dataset understanding

Cleaning steps

Visualizations with screenshots

**Data Cleaning Summary**

Issues found + Solutions applied

**PostgreSQL Proof**

Screenshots of queries/outputs

Master Table creation + validation  
  
  
  
  
🎯 Learning Outcomes  
By the end of Week 1, you will:

Learn how to **explore and interpret datasets**.

Understand **data cleaning techniques** and maintain accuracy.

Practice **PostgreSQL data import and SQL queries**.

Gain experience in **Master Table design** (ETL basics).

Understand the importance of **data integrity and consistency**.  
  
  
  
⚡ **In simple words:**  
  
**Understand datasets → Perform EDA → Clean data → Load into PostgreSQL → Build Master Table → Submit Report (PDF).**