Lab06 – Lab Statement: Business Understanding and Data Preparation

Course: Programming for Data Science

This lab focuses on the initial stages of the data science process—business understanding, data understanding, and data preparation—which form the foundation for effective analysis and programming.

Students will start with business understanding, defining the problem context, identifying analytical goals, and translating business or organizational needs into data-driven questions.

The data understanding phase will involve collecting, exploring, and evaluating datasets to assess their quality and relevance. Students will use programming tools to perform descriptive and exploratory analyses, detect missing or inconsistent data, and identify preliminary trends or relationships.

In the data preparation phase, students will learn how to clean, transform, and integrate data from multiple sources. Emphasis will be placed on handling missing values, correcting data types, standardizing variables, and structuring datasets for subsequent analysis.

By completing this lab, students will gain practical experience in linking contextual understanding with technical data handling, building the groundwork for future analytical and modeling tasks.

Expected output:

- Word Document describing the process
- Python code
- Data (link or dataset)