**Data Analytics Project Report**

# Objective

The objective of this project is to explore and analyze datasets using various data analytics tools and techniques. The project focuses on:

* Python-based analysis of the Titanic dataset and ODI (One Day International cricket) dataset.
* Creation of Excel dashboards for raw sales data from Vrinda Store and DMart to visualize key business metrics.
* Performing SQL queries on book, order, and customer CSV datasets to extract meaningful insights.

This comprehensive approach enables the development of skills in data preprocessing, visualization, and insight generation from diverse datasets.

# Python Analysis

## 2.1.Titanic Dataset

Goal: To analyze survival patterns using demographic and travel data.

Tasks Performed:

* Data cleaning (handling missing values).
* Exploratory Data Analysis (EDA) using matplotlib, seaborn, and pandas.
* Feature engineering and visualization of survival rates by gender, class, age group, etc.

## 2.2 ODI Dataset

Goal: To derive performance insights from historical ODI match data.

Tasks Performed:

* Aggregation of team and player performance.
* Identification of trends like win/loss patterns, run rates, and player consistency.
* Visualization using bar charts, line graphs, and heatmaps.

# 3.Excel Dashboard

## 3.1 Vrinda Store & DMart Sales

Goal:To create an interactive dashboard from raw sales data.

Key Features:

* Pivot tables and pivot charts for sales trends.
* Slicers for category-wise filtering.
* KPIs like total revenue, top products, and monthly performance.

These dashboards allow dynamic insights into product sales, profitability, and customer preferences.

# 4.SQL Analysis

## 4.1 Book, Order, and Customer Data

Goal: To perform structured queries on customer transaction data.

Tasks Performed:

* JOIN operations across book, order, and customer tables.
* Filtering records to identify top customers, best-selling books, and order trends.
* Aggregate functions to calculate total revenue, average order value, etc.

# 5.Key Learnings

* Improved proficiency in Python libraries like pandas, matplotlib, and seaborn.
* Gained practical knowledge of data visualization techniques using Excel.
* Developed SQL querying skills for relational databases.
* Understood how to derive actionable business insights from raw datasets

# 6. Conclusion

This project provided a hands-on experience across multiple tools and datasets, reinforcing the importance of data preprocessing, visualization, and insight derivation. The integration of Python, Excel, and SQL offered a holistic view of data analytics processes. The analysis of Titanic and ODI datasets improved statistical and domain understanding, while the business-focused dashboards and SQL queries contributed to practical data handling and reporting skills.