Project Proposal – Predicting Plant Growth Stages with Environmental and Management Data

➢ Objective:

▪ The objective of this project is to build a Power BI-based dashboard that visualizes plant growth stages by analyzing environmental (e.g., temperature, humidity, sunlight) and management (e.g., water frequency, soil type, fertilizer) data. The goal is to help users understand how various factors impact plant development and predict growth stages more accurately.

➢ Scope of the Project:

▪ Analyze plant growth data from multiple regions and crop types.
▪ Study the relationship between environmental conditions and plant growth patterns.
▪ Categorize and describe stages of growth (e.g., germination, vegetative, flowering, etc.).
▪ Calculate statistical metrics like average sunlight hours, temperature, humidity, and growth stage percentages.
▪ Build visualizations and slicers to filter by soil type, fertilizer, water frequency, and other variables.
▪ Develop a story-driven report and a video demo.

➢ Tools Used:

▪ Power BI for visualization
▪ MS Excel for data preprocessing
▪ GitHub for version control and documentation
▪ Google Docs for collaboration

➢ Deliverables:

▪ .pbix file (dashboard)
▪ 3+ visual charts showing growth trends
▪ 1 final report (PDF)
▪ 1 video demo
▪ Full project documentation
▪ Cleaned dataset in CSV format

➢ Stakeholders:

- Agricultural researchers
- Farmers and agritech professionals
- Environmental scientists
- Students and academic institutions