# Week 2 – Assessment

1. Library Imports & Setup: Included necessary Python libraries (numpy, pandas, matplotlib, seaborn) and configured warnings.

2. Data Loading & Inspection:  
 - Loaded the Crop\_recommendation.csv dataset.  
 - Checked shape, basic info, missing/duplicate values, and statistical summary.  
 - Analyzed the distribution of the target variable (label).

3. Data Visualization:  
 - Visualized distributions of individual features.  
 - Created scatter plots of features vs. target.  
 - Used box plots to detect outliers.  
 - Generated a correlation heatmap.

4. Data Preparation:  
 - Created a mapping dictionary to convert crop names into numeric values (crop\_no).  
 - Dropped the original label column and retained crop\_no as the target.

5. Train-Test Split:  
 - Split the data into training and testing sets using train\_test\_split.

6. Feature Scaling:  
 - Standardized feature values using StandardScaler to prepare for modeling.