**Crop-Fertilizer-Recommendation-System**

**Assessment: Week\_1**

**~ Kavyansh Khandelwal**

**What is ML?**

Machine Learning (ML) is like teaching a computer to learn from data and make decisions on its own without us telling it exactly what to do. For example, if we give it lots of pictures of cats and dogs, it can learn to tell them apart by finding patterns in the data. ML can be used in many places, like predicting the weather, recognizing our voice in applications, or even helping doctors find diseases from medical images. It can also be used in crop fertilizer prediction, where it helps farmers know how much fertilizer to use for better crops by looking at soil and weather data.

**What is Supervised ML Algorithm?**

Supervised ML algorithms are when the computer learns from examples where we already know the answers. It’s like giving the computer a question paper with the solutions so it can study and learn. For example, if we give it data with soil types, weather conditions, and the right amount of fertilizer used for crops, it can learn to predict how much fertilizer a new crop field needs. It’s called "supervised" because we guide it with labeled data.Two types of it are regression and classification.

**What is Regression and Classification?**

Regression and classification are two types of supervised ML tasks. Regression is when we predict a number, like predicting the amount of fertilizer needed for a crop based on soil nutrients and rainfall—it gives a continuous value. Classification is when we predict a category, like deciding if a crop will grow well or not with a certain fertilizer—it puts things into groups like "good growth" or "bad growth". Example can be regression for predicting how much fertilizer to use, and classification for identifying if a fertilizer is suitable for a crop or not**.**