**Week 1:**

1.What is ML? (Machine Learning)

Machine Learning is a method where algorithm learn from data to identify patterns, make predictions. Machine Learning Models are trained on datasets to find relationships and then applied to new data. For Example Songs played and skipped, it learns patterns in user preferences and recommends new songs tailored to a user’s taste, suggesting similar artists or genres based on their listening history.

2.What is Supervised Machine Learning algorithm?

A Supervised machine learning algorithm is a type of machine learning where a model is trained on labelled dataset. After training, when we give new input, it gives us the predicted output. For example a ml model is trained on a dataset of emails, where each email is labelled as “spam” or “not spam”. After training, when we give a new unlabelled email, it predicts whether it’s a spam or not based on learned patterns.

3.What is regression and classification?

Regression and classification are two main types of supervised machine learning.

**Regression:**

Regression is used when we are predicting numbers(continuous values/data).Regression algorithms are used when output column is continuous values.

Ex: House price prediction, car value prediction.

**Classification:**

Classification is used when we are predicting categories. Classification algorithms are used when output is categorical.

Ex: Email Spam Detection.