

## Training Day-4 Report:

### **Types of Supervised Learning:-**

Supervised learning is typically divided into two main categories: regression and classification. In regression, the algorithm learns to predict a continuous output value, such as the price of a house or the temperature of a city. In classification, the algorithm learns to predict a categorical output variable or class label, such as whether a customer is likely to purchase a product or not.

#### ➤ **Regression**

Regression is a supervised learning technique used to predict continuous numerical values based on input features. It aims to establish a functional relationship between independent variables and a dependent variable, such as predicting house prices based on features like size, bedrooms, and location.

The goal is to minimize the difference between predicted and actual values using algorithms like Linear Regression, Decision Trees, or Neural Networks, ensuring the model captures underlying patterns in the data.

#### ➤ **Classification**

Classification is a type of supervised learning that categorizes input data into predefined labels. It involves training a model on labeled examples to learn patterns between input features and output classes. In classification, the target variable is a categorical value. For example, classifying emails as spam or not.

The model's goal is to generalize this learning to make accurate predictions on new, unseen data. Algorithms like Decision Trees, Support Vector Machines, and Neural Networks are commonly used for classification tasks.