**What is Machine Learning (ML)?**

Machine Learning (ML) is a branch of Artificial Intelligence (AI) that allows systems to automatically learn from data and improve their performance without being explicitly programmed. It focuses on developing algorithms that can identify patterns in data and make predictions or decisions based on that data. ML is widely used in applications like recommendation systems, image recognition, fraud detection, and more.

**What is Supervised Machine Learning Algorithm?**

Supervised learning is a type of machine learning where the model is trained on labeled data. In this setup, each training sample consists of an input and a corresponding output label. The algorithm learns the relationship between inputs and outputs during training, and it uses that learning to make predictions on new, unseen data.

Examples of supervised learning algorithms:

* Linear Regression
* Logistic Regression
* Decision Trees
* Support Vector Machines (SVM)
* k-Nearest Neighbors (k-NN)

**What is Regression and Classification?**

**Regression:**  
Regression is a type of supervised learning used to predict continuous numerical values. The model learns the relationship between input features and a continuous output.  
Example: Predicting house prices, temperature, or stock prices.

**Classification:**  
Classification is a type of supervised learning used to predict categorical labels or classes. The model learns to assign inputs into discrete categories.  
Example: Spam vs. Not Spam, Diagnosing diseases (Yes/No), or recognizing digits.