# Week 1 Assessment

## 1. What is Machine Learning (ML)?

Machine Learning is a method of teaching computers to learn from data and improve their performance over time without being explicitly programmed. Instead of writing specific instructions for every task, machine learning allows systems to learn patterns from large sets of data and make decisions or predictions. It’s widely used in applications like speech recognition, email filtering, and recommendation systems.

## 2. What is a supervised ML algorithm?

A supervised learning algorithm is a type of machine learning method where the model is trained using labeled data. That means each piece of training data includes both the input and the correct output. The goal is for the algorithm to learn the relationship between inputs and outputs so that it can predict outcomes for new, unseen inputs. For example, if you're teaching a model to recognize fruits, you’ll show it many labeled examples like 'apple', 'banana', or 'orange'.

## 3. What is regression and classification?

Regression and classification are two main types of supervised learning problems:  
  
- Regression is used when the output is a continuous value. For example, predicting the price of a house based on its features.  
- Classification is used when the output is a category or class. For example, classifying an email as 'spam' or 'not spam'.