# Week 1 Assessment

# What is Machine Learning (ML)?

Machine Learning is a branch of Artificial Intelligence (AI) that focuses on enabling machines to learn from data and improve their performance over time without being explicitly programmed. It involves building algorithms that can analyze patterns, make decisions, and predict outcomes based on historical data.

# What is Supervised Machine Learning?

Supervised Machine Learning is a type of ML where the model is trained using labeled data. In this approach, the algorithm is given input-output pairs, and it learns to map inputs to the correct outputs. Once trained, it can make predictions on unseen data. Examples include linear regression, logistic regression, decision trees, and support vector machines.

# What is Regression and Classification?

Regression and Classification are two main types of problems in supervised learning:  
  
• Regression: In regression tasks, the goal is to predict continuous numeric values. For example, predicting house prices based on features like size and location.

• Classification: In classification tasks, the goal is to predict discrete class labels. For example, identifying whether an email is spam or not spam.