ML Day 5 & 6 - Core Concepts Notes

1. Types of Machine Learning:

   - Supervised Learning: With labeled data (e.g., Linear Regression, Decision Trees)

   - Unsupervised Learning: Without labeled data (e.g., Clustering, PCA)

   - Reinforcement Learning: Learning via rewards (e.g., Q-Learning)

2. Key Concepts:

   - Dataset: Collection of data points

   - Features: Input variables (X)

   - Labels: Target/output variable (y)

   - Training/Test Split: Usually 70:30 or 80:20

   - Underfitting: Model too simple

   - Overfitting: Model too complex, memorizes data

   - Bias-Variance Tradeoff: Balance between underfitting and overfitting

3. Libraries:

   - Scikit-learn: Popular ML library in Python

   - Pandas: For data manipulation

   - Numpy: For numerical computation