PRIOR KNOWLEDGE

MACHINE LEARNING:

Machine learning (ML) is a type of artificial intelligence (AI) that allows software applications to become more accurate at predicting outcomes without being explicitly programmed to do so. Machine learning algorithms use historical data as input to predict new output values.

TYPES OF MACHINE LEARNING:

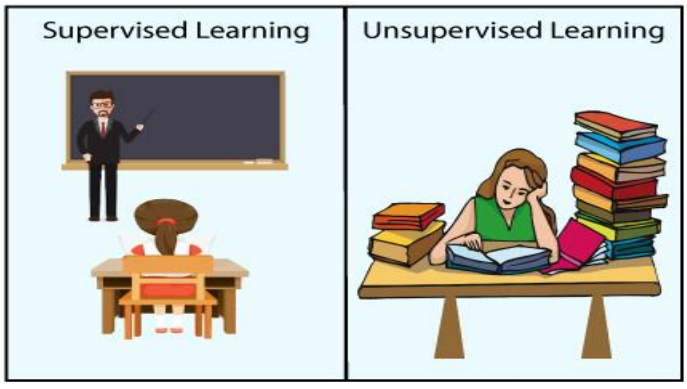
There are two types of machine learning algorithms. They are Supervised Learning and Unsupervised Learning Algorithms.

SUPERVISED LEARNING ALGORITHMS:

Supervised learning is a machine learning method in which models are trained using labeled data. In supervised learning, models need to find the mapping function to map the input variable (X) with the output variable (Y). Supervised learning needs supervision to train the model, which is similar to as a student learns things in the presence of a teacher. Supervised learning can be used for two types of problems: **Classification** and **Regression**.

Unsupervised Machine Learning:

Unsupervised learning is another machine learning method in which patterns inferred from the unlabeled input data. The goal of unsupervised learning is to find the structure and patterns from the input data. Unsupervised learning does not need any supervision. Instead, it finds patterns from the data by its own. Unsupervised learning can be used for two types of problems: **Clustering** and **Association**.



IMPORTING ALL LIBRARY PACKAGES:

Importing all python libraries like numpy, matplotlib, pandas, seaborn for analysing the data. Using all packages to train the data,and test the model. Using data Visualization to represent the data in the visual format.The purpose of Visualizing the present data to be summarizied and make the data be easily understandable.

FLASK:

Using FLASK console to store the all python files, html files, and css files. To run all files in this console to get a web application for Efficient Water Quality Analysis & Prediction.

PROJECT STRUCTURE

WEB APPLICATION:

- To design a web application for front end using html and css files to make a web application be effectively.
- Save the files with extension of .html,.css.
- Using Python files to scripting the server-side.
- Adding many images to make a web page be attractive.
- Installation of Flask Application.
- Importing all Flask Libraries in the console.
- Using Flask console to create a web application for predicting the water quality.