SMART CONSULTANCY

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Introduction

This research implements different approaches for four essential Machine Learning functionality groups while addressing practical problem scenarios faced by **smart consultancy** . The study addresses four key Machine Learning applications that involve Clustering & Ranking as well as Predicting Fuel Consumption followed by Analyzing Tennis Play Frequency and Polynomial Regression for Tractor Maintenance.

TASK 1

- "Ranking" commonly refers to extracting a scoring approach from statistics using algorithms
- The task of grouping data points based on their similarity is called Clustering or Cluster Analysis.
- The number of input features, variables, or columns present in a given dataset is known as dimensionality, and the process to reduce these features is called dimensionality reduction.
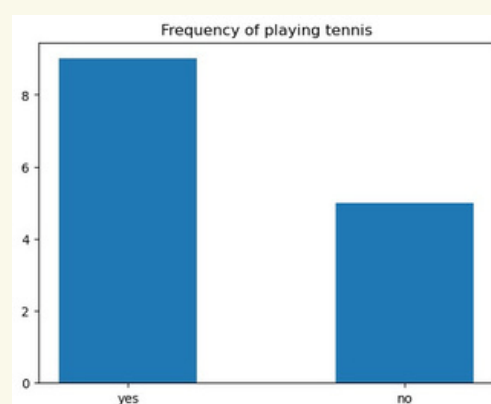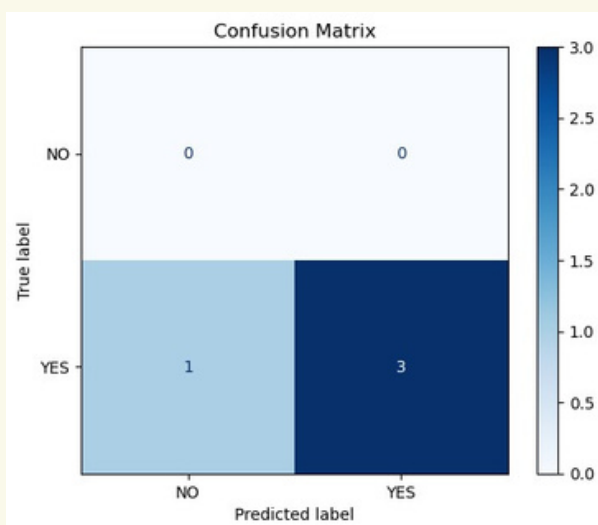

TASK 2

- Machine learning predictive models allow users to estimate the fuel consumption of vehicles.
- A Regression analysis predicts fuel efficiency from vehicle specifications.
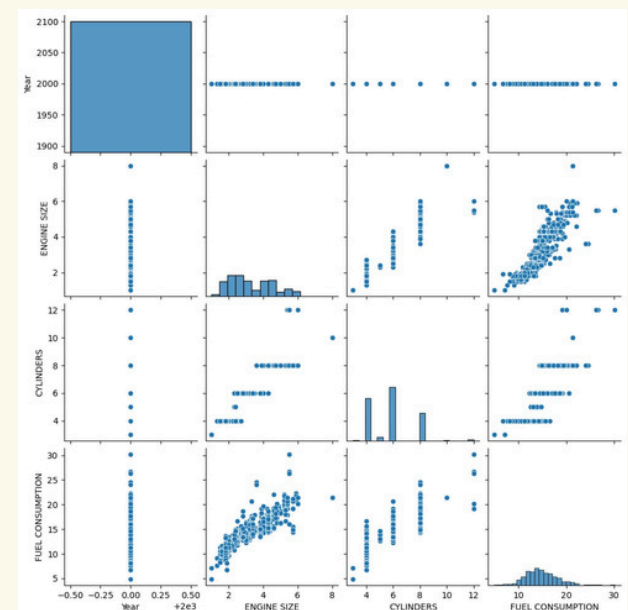
TASK 3

- ML techniques to identify how frequently people play tennis based on weather conditions.
- Results: Accuracy: 75%

TASK 4

- Polynomial regression identifies the maintenance requirements of tractors through analysis of their age data.
- The method produces parabolic data patterns to represent maintenance trend behaviors.
- : Mean Squared Error (MSE): 10937.08
- Mean Absolute Error (MAE): 85.77
- R-Squared Score: 0.867