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Student Performance Data

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🎓 Student Performance Prediction

This project focuses on analyzing and predicting students' final exam scores based on their academic performance, study habits, and external factors. The goal is to build predictive models that can help educators and institutions identify key factors influencing students' success and develop targeted interventions.

📁 Dataset Overview

The dataset contains information about:

- Academic performance metrics (e.g., past scores, attendance)
- Study habits (e.g., study time, preparation methods)
- External factors (e.g., family background, social activities)

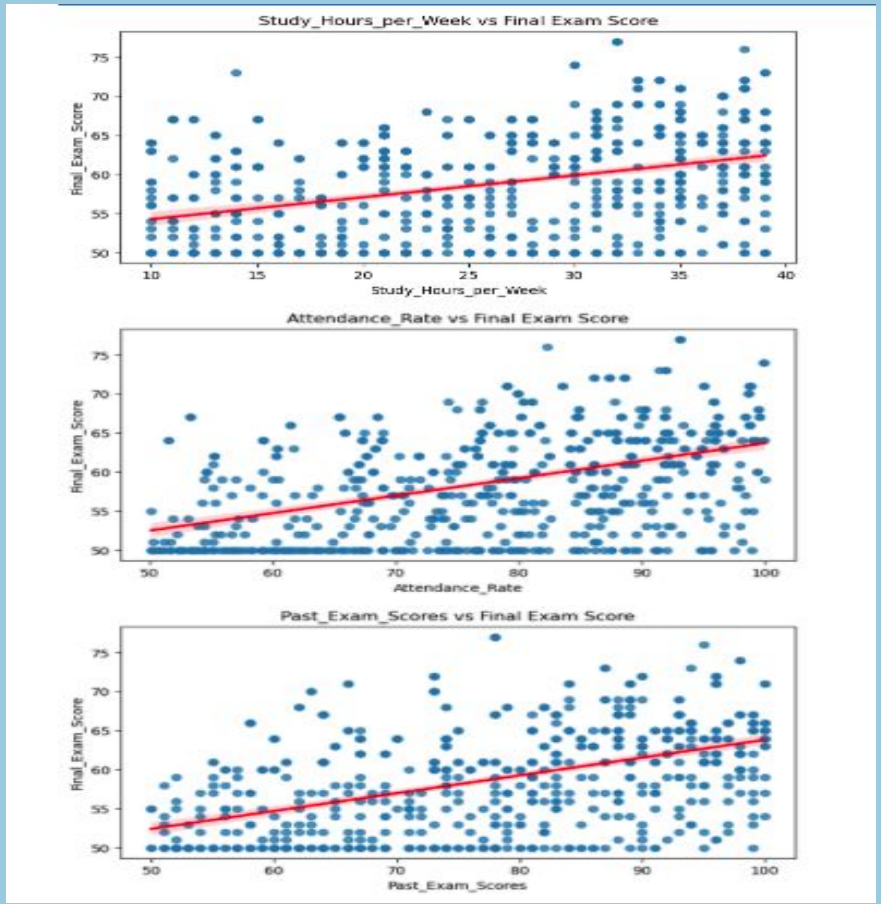
Dataset Purpose

This dataset is useful for:

- 📈 Predicting student final exam scores
- 🎯 Identifying key factors that impact academic performance
- 📊 Exploring feature importance in education-related datasets
- 🤖 Building machine learning models for regression and classification

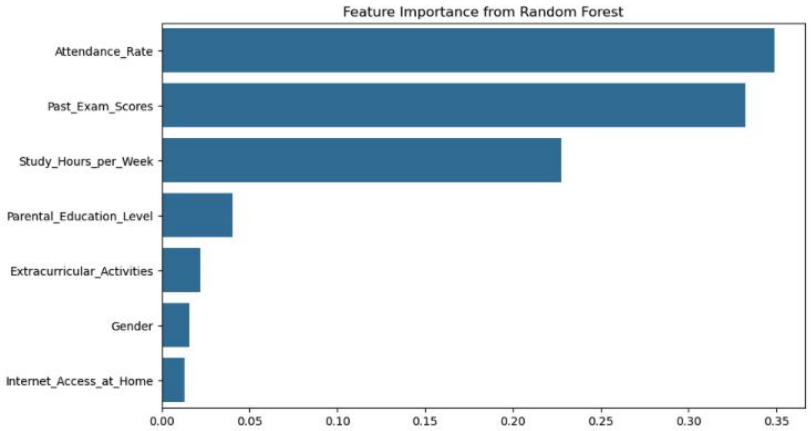
What affects a students final exam score?

There is a positive correlation between study hours per week, attendance rate, and past exam scores for final exam scores.



What is most important in calculating final exam score?

According to my random forest model, attendance rate is most important in a student's final exam performance.



This is a linear regression model I built in jupyter lab using the 6 factors in the dataset

- Study hours per week
- Attendance rate
- Past exam scores
- Parental education level
- Internet access at home
- Extracurricular activities
- Gender

The R2 score for the model was 0.86.