Analyzing Factors Influencing Student Performance

In this project, we aim to analyze the factors that influence students' academic success using a dataset that covers various aspects of their personal and academic lives. By examining these factors and guiding students based on the results, we can help develop strategies that enhance learning outcomes. The dataset used for this analysis is titled **"Student Performance Factors"** and includes data on students from diverse backgrounds. It covers variables such as gender, family income, study time, and parental education level, among others. These factors are crucial as they directly impact students' academic performance. The objective of this analysis is to identify which of these factors most strongly correlate with high academic performance. By pinpointing key trends, we can better understand how educational environments and individual circumstances affect learning. This analysis will enable us to provide recommendations for schools to improve student outcomes, such as offering targeted interventions for students who face challenges due to external factors or strengthening school support systems.The dataset, titled **"Student Performance Factors"**, is sourced from **Kaggle** and was shared by user **lainguyn123**. The dataset is publicly available, and it can be accessed via this link: https://www.kaggle.com/datasets/lainguyn123/student-performance-factors/data. It contains 6,607 records and includes 10 string variables, 7 integer variables, and 3 boolean variables. These variables encompass **hours studied, attendance, parental involvement, access to resources, extracurricular activities, sleep hours, previous scores, motivation level, internet access, tutoring sessions, family income, teacher quality, school type, peer influence, physical activity, learning disabilities, parental education level, distance from home, gender,** and **exam score**.