A purple and black arch with trees

Description automatically generated with medium confidence**Module 4**

Data Analysis with Python Analysis Report - Challenge 4

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# **Data Overview**

*This report provides a thorough analysis of educational data using Python. The dataset includes school details like size, type, budget, and academic performance metrics such as average math and reading scores, along with the percentages of students passing math and reading, and overall passing rates.*

# **Key Findings**

Understanding how well schools perform is crucial for making informed decisions about education policy and resource allocation. In this study, we employed data analysis techniques in Python to investigate the performance of schools based on their size and type. Our analysis began by calculating averages for various academic metrics, including math scores, reading scores, and passing rates, categorized by school size and type.

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*When we grouped the data by school size, we found some interesting trends. Smaller schools, defined as those with fewer than 1000 students, exhibited higher average math and reading scores compared to larger schools. Moreover, the percentage of students passing math, reading, and both subjects combined was notably higher in smaller schools compared to their larger counterparts. This suggests that having fewer students in each class and more personalized attention may contribute positively to academic performance.*

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*Next, we looked at the data based on school type. Charter schools did better than district schools in both math and reading. They had higher average scores and passing rates. More students in charter schools passed math, reading, and both subjects compared to district schools. This suggests that the ways charter schools teach might help students do better.*

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# **Conclusions**

*In conclusion, our analysis shows how school size and type affect academic performance, using Python data analysis techniques. Smaller schools, with fewer than 1000 students, have higher math and reading scores and more students passing both subjects. This suggests that smaller class sizes and more attention might help students succeed.*

*Also, charter schools consistently do better in math and reading compared to district schools. They have higher scores and passing rates, showing their methods may be more effective.*

*It's crucial to consider both school size and type when making education decisions. Understanding what influences academic success helps policymakers and educators support students better. Continuous data analysis is essential for improving education practices and ensuring all students have access to quality education.*