**PyCity Schools Analysis**

The PyCitySchools dataset consists of 15 schools in a particular school district. There were 2 types of schools in the dataset – district and charter. This difference proved to be significant in terms of overall student performance and especially in math, based on standardized test scores provided. Key metrics that were calculated in this analysis included school size and spending per student. Charter schools significantly outperformed district schools. The overall passing rate for Charter schools was above 90% whereas the overall passing rate for District schools was 53.7% This outcome was quite surprising, as more than 80% of District students passed reading, and 66.5% of District students passed math. This suggests that there are many students who only passed 1 subject, and reading was heavily favored. This result was in stark contrast to Charter schools where 93.6% passed math, and 96.6% passed reading, although the overall passing rate was also lower (90.4%).

In looking more closely at the differences between the 2 types of schools, it is apparent that charter schools are smaller in size than district schools. The lowest-performing schools have a population of 2500-5000 students, and the highest-performing schools have 900-2300 students. The highest overall passing rate (>90%) was in medium sized schools (1000-2000 students), although small schools had an overall passing rate of 89.9%. Large schools had a much lower passing rate of 58.3%.

The impact of school spending was paradoxical in that schools that spend more money per student have lower performance results. Schools that spend less than $585 per student have an overall passing rate of 90.4%, and schools that spend the most ($645-680) have an overall passing rate of 53.5% This suggests that the highest performing schools are much more effective in allocating resources and function more efficiently. It would be useful for the school district to know that the problem cannot simply be solved with more funding, but rather a thorough evaluation of the use of school resources may be warranted. Demographic information on the student population might also be useful to see if there are any significant differences. According to *Charter School Capital*, charter schools receive less funding than district schools because district schools are required to provide certain services that charter schools aren’t. (<https://charterschoolcapital.com/blog/the-charter-school-funding-gap-why-are-district-schools-getting-more/>)

What was also surprising about the test scores was that the overall passing rate was lower than the individual subject passing rates, suggesting that many students only passed one subject. It would be helpful to have school attendance data to find out if there were students who got zeroes on one of the tests due to absenteeism. These results also suggest that math is not given as much attention in district schools, as the disparity in reading scores is not very significant when compared to math scores. It is not surprising, however, that charter schools performed better as they are held to higher standards than public schools due to having more autonomy. (<https://www.usnews.com/education/k12/articles/understanding-charter-schools-vs-public-schools>)