**Academy of Py Analysis**

**Introduction**

Two files containing school and student data for My City was provided to perform an analysis on the data. The analysis was done to assist the school board and mayor in making strategic decisions regarding future school budgets and priorities. The school data file contained the following information: school name, ID, school type (District or Charter), size based on student population and a budget amount. Likewise, the student data file contained information on each student: name, ID, gender, grade, school and their reading and math scores.

**Methods**

The files were read into Pandas and Python was used to run the respective analysis. Panda Library and Jupyter Notebook was use to write the codes to aggregate the data to showcase trends in performance of the schools. The analysis on the schools' performance were based on the standardized test results of each student's math and reading scores and the schools’ information that respective student attended.

The two data files were merged into one using school\_name as the key. A high-level snapshot was created of the district key metrics and along with separate summarize table of key metrics about each school. The top five and bottom five performing schools based on overall passing rates were identify. To determine the overall passing rates, the average math and reading scores for each student by grade was taken. The average and overall passing scores were then used to analyze the schools' spending, size and type.

**Observations**

Based on the methods used and the analysis performed, the following observations were noted:

Charter schools appears to perform better than district schools as the average scores, pass rates and overall passing were higher than the charter schools were higher than those of the district schools. It was further noted that the top five performing schools were all charter and the bottom five performing were district.

It appears that on average the smaller schools type based on the student population per school perform better than the larger school types as evident in higher average score, pass rate and overall passing when compared. The more students per school the lower the score and passing rates.

Spending didn't appear to have a significant impact on test scores. Higher amount of spending per student didn't necessarily correlate to higher passing percentages or scores.

It appears that on average students generally did better in reading as compared to math as were evident in the higher reading scores when looking at scores per grade.

**Conclusion**

In conclusion charter schools performed better than district schools on the standardized tests of math and reading. The school student population appears to have a significant impact on test scores and overall passing rates in that smaller school out performed large schools. Spending had minimal impact on student performance and no clear correlation was noted between spending and performance.