**Written Analysis**

The PyCity School Analysis is an analysis to identify patterns in student success based on factors such as school type, size, budget, and more. As the first part of the school data analysis, we generate some general baseline values by creating the district summary table which identifies parameters such as the total number of students, total school budget, overall passing rate and more. In the next part of the analysis, we group the data by each unique school. This enables us to create the school summary data frame which provides a visual summarization of the school type, total student, school budget, budget per student, average subject tests scores, passing rate per subject, and overall passing rate per school. The top and bottom performing school analysis sorts the school summary data frame by the overall passing rate. From this analysis we were able to determine the Cabrera High School was the top performing school, whereas Rodriguez high school was the worst. The Math and Reading Scores by grade analysis breaks down subject averages by grade which provides insights into student performance by grade across the 15 high schools. The scores by school spending analysis groups the data by specific budget ranges and summarizes student performance per high school in accordance with those ranges. Next, the scores by school size analysis categorizes the data by school size to give insights into metrics such as student performance. Finally, the scores by school type analysis, groups the data by the two school types (charter or district) to give insight into student performance such as the overall passing rates.

**Conclusion of Data**

1. Looking at the Top Performing School (highest overall passing %) we can conclude that charter schools with their lower budgets seem to have high performing students. This indicates that these schools are better at utilizing their budget/resources to achieve the maximal student performance. A limitation though is that we are working with a limited number of charter schools so their effectiveness/quality may vary more than what’s shown by our data analysis.
2. By analyzing the scores by school size. We can conclude that school sizes with less than 2000 students tend to have higher performing students as indicated by the key metric show as part of the size\_summary data frame. A limitation of this is finding is the key metrics such as average reading/math score is easily skewed by outliers. Metric such as the median score would be a better indicator of performance as it is not easily skewed by data. Additionally, we cannot fully conclude the smaller size classes improve student performance as other factors such as teaching technique, community and more can also influence these results.