**PyCitySchools Analysis**

**Summary**

**PyCity has provided us with data about each of the students and schools within the school district. The school data that have been provided includes School ID, School Name, School Type, School Budget, and School Size (number of students). Student Data that has been provided includes Student ID, Student Name, Gender, Grade, School Name, Reading Score, and Math Score. We have been asked to modify the data in order to create data frames that help deduce conclusions about the school system or district. The first data frame that is created gives information about all totals and averages for the whole district. The next data frame shows information about totals and averages for each school. After breaking down the data per school, the data frame will be reorganized to show the five schools that had the highest and lowest overall passing percentages. The school district would also like to know how each school did in math and reading compared to grade levels. A data frame has been created to show how the 9th, 10th, 11th, and 12th graders did at each school within the school system. Spending is always important so the district would also like each school to be categorized by the budget for each student at each school. The four ranges included less than $585, between $585 and $630, between $630 and $645, and between $645 and $680. A data frame is created to show the average scores and percentages for each spending range. School size is the next attribute that is categorized and just like for spending ranges, each school has been categorized as either large, medium, or small. A data frame is created to show the average scores and percentages per each school size. Lastly, the school district would like to compare school types, either charter or district (public) schools. The final data frame is created to show the average scores and percentages for charter schools and district schools.**

**Two Conclusions**

* **It seems that Charter schools have higher rates of math and reading scores as well as a higher percentage of students passing math, reading, and overall. Charter schools had an average math score of 83.5 compared to District schools which averaged 77. Charter schools had an average reading score of 83.9 compared to District schools which averaged 81. The percent of students passing math, reading, and overall for Charter schools are 93.6%, 96.6%, and 90.4%, respectively. These are all higher compared to District schools which only had 66.5%, 80.8%, and 53.7% of students passing math, reading, and overall, respectively.**
* **It seems that large (2000-5000 students) schools have lower average math scores and reading scores compared to medium (1000-2000 students) and small (<1000 students) schools. The same can be said about the percentage of students passing math, reading, and overall. The medium and small schools have similar average math and reading scores as well as similar percentages of students passing math, reading, and overall. Large schools had an average math score of 78 while medium and small schools averaged 83. Large schools had an average reading score of 781 while medium and small schools averaged 84. Large schools are struggling with the percentage of students passing math and overall. The small and medium schools have 94%, 96%, and 90% of students passing math, reading, and overall while large schools only have 70%, 83%, and 58%.**