* Summarizes the analysis (5 points)

This analysis started by using pandas to read and combine two CSVs into one data frame that contains information about students and schools in the same school district. This leads into the district summary section which culminates in a broad overview of information about the school district: the total number of unique schools, total students, total budget, average math score, average reading score, % of students passing math, and % of students passing reading. This section involved more surface level queries into the larger data frame, such as a count of unique values in a column. The following school summary section focuses on individual school statistics. This sections summary includes the school names, school type, students per school, total school budget, budget per student, average math and reading scores, percentage of students passing math and reading per school, and overall percentage of students passing per school. This section required more conditional queries, such as creating a new data frame with all of the rows where one column meets a conditional statement. The next sections are highest-performing schools by % overall passing and bottom performing schools by % overall passing which take the data frame from the school summary section, sorts the data frame by the % passing overall section, and the .head() and .tail() methods to get the top 5 and bottom 5 schools in the school district by overall passing percentage. The next section is the math scores by grade section which looks at the average math score by grade in each school, followed by the reading scores by grade section which analyzes the reading scores in the same format. The following section, scores by school spending, looks at how a schools budget per student impacts the average math and reading scores, percent passing math and reading, and overall passing percentage. This analysis required using pd.cut() to put the school budget per student into categories to later break down. The next section, scores by school size, follows the same analysis steps as the previous section but looks at grades against the number of students per school. The last section of analysis is scores by school type which looks at the same information as the scores by school spending but broken down by which type of school, charter or district.

* Draws two correct conclusions or comparisons from the calculations (10 points)

One conclusion I can draw from the calculations is that charter schools have higher average math and reading scores, as well as a higher percentage of students passing math and reading with much more students passing overall. This conclusion is clear after the last section of the analysis which compares how district and charter school students perform – every metric for measuring student performance from the data available shows that students performed better in general in charter schools than district schools. One comparison you can make from the calculations can be comparing student performance against school size. Medium size schools had a higher percentage of students passing math, reading, and overall, than small and large schools. However, average math and reading scores are highest at small schools, and large schools have the lowest numbers in every metric measured. This comparison is interesting because it leads to more questions – why do smaller schools have higher average math and reading scores than medium and larger schools? Do they tend to have a higher budget per student? (By looking at the scores by school spending section you can see that schools spending $585 or less per student had the highest performance metrics across all categories). If average scores are highest at small schools why do more students pass at medium sized schools? What makes large schools the lowest performing?