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Pandas Challenge – Statistical Analysis

There are two conclusions which immediately jump out at us upon looking at the data. The most obvious one is that large schools have significantly lower passing rates than small and medium schools. This is mirrored in the data for passing rates by school type, where we see significantly higher passing rates in charter schools compared to district schools, presumably having to do with the fact that charter schools are on average smaller than district schools. And indeed, the top five schools by overall passing percentage are all charter schools, whereas the bottom five are all district schools.

Second, and somewhat unintuitively, the percentage of students with passing grades is negatively correlated with per-capita spending. The only explanation I can think of for this is that district schools tend to spend more per capita than charter schools, but charter schools tend to have better outcomes for students for reasons unrelated to spending.

To summarize, smaller schools, charter schools, and lower-spending schools all tend to have higher overall passing rates than their larger, public, higher-spending counterparts. In addition, grade level does not seem to have a significant effect on passing rates.