Well done! Having spent years analyzing financial records for big banks, you've finally scratched your idealistic itch and joined the education sector. In your latest role, you've become the Chief Data Scientist for your city's school district. In this capacity, you'll be helping the school board and mayor make strategic decisions regarding future school budgets and priorities.

As a first task, you've been asked to analyze the district-wide standardized test results. You'll be given access to every student's math and reading scores, as well as various information on the schools they attend. Your responsibility is to aggregate the data to and showcase obvious trends in school performance.

**HOMEWORK ASSIGNMENT:**

1. **Your final report should include each of the following:**

|  |  |
| --- | --- |
| * District Summary * School Summary * Top Performing Schools (By % Overall Passing) * Bottom Performing Schools (By % Overall Passing) | * Math Scores by Grade * Reading Scores by Grade * Scores by School Spending * Scores by School Size * Scores by School Type |

1. **Submit a link to your Jupyter Notebook with the viewable Data Frames.**

* <https://github.com/robgauer/pandas-challenge.git>

1. **Include a written description of at least two observable trends based on the data.**

**Overview:**

* 15 total schools with a total population of 39,170 students.
* 8 Charter schools. 12, 194 students. An average $600 budget per student.
* 7 District schools. 26,976 students. An average $644 budget per student.

**Trends:**

* Scores by School Size: The Larger District school populations have overall lower scores for Math, Reading, and Overall Passing Rate.
* Scores by School Type - Charter School Performance:
* Is higher than District School Performance in Math, Reading, and Overall Passing Rate.
* Charter School Passing Rate is in the low 90’s percentile vs. District in the mid-60’s percentile. This is significant.
* The cost per student (Per Student Budget) spend is lower than that of District Schools.
* A smaller school population. 12,194 students vs. 26,976 students for District Schools.
* Per Student Budget dollars: A higher spend does not increase the % of Overall Passing Rate. In this example, based on the information provided, we could state that spending more decreases overall passing rate performance.
* What is different in the overall population of a Charter School vs. a District School? Is it just school size? We need to understand/learn what those differences are so we can make inferences from the internal and external data. A quick assumption (based on what information is known here) would be to model District Schools after the smaller Charter Schools.