# Pandas Challenge

##Overview of the Project:

The purpose of this project was to use open-source software Jupyter Notebook and Pandas library to perform high performance data analysis for a school district. The list of deliverables for the analysis of the school district:

* A high-level snapshot of the district's key metrics, presented in a table format
* An overview of the key metrics for each school, presented in a table format
* Tables presenting each of the following metrics:
  + Top 5 and bottom 5 performing schools, based on the overall passing rate
  + The average math score received by students in each grade level at each school
  + The average reading score received by students in each grade level at each school
  + School performance based on the budget per student
  + School performance based on the school size
  + School performance based on the type of school

## Results

* **District Summary**: The updated District Summary DataFrame shows a difference of Total Students by 461 Students for Thomas High School for the updated analysis. This is because we dropped the 9th Grade Students from Thomas High School because of evidence of academic dishonesty.
* **School Summary**: The updated School Summary DataFrame is affected by the Reading and Math Score averages for Thomas High School. Though it is affected, the differences are only by a tenth of percentage.
* **Ninth-Grade Thomas High School Impact**: The replacement of the 9th Grade math and reading scores in comparison to the other schools did not make much impact. The scores are consistent with the other schools by a range of 1-2 percent.
* **Math and Reading Scores by Grade**: Replacing the 9th Grade student scores has made an impact to the math and reading score by 1-7% percent.
* **Scores by school spending:** The scores did not have any impact on school spending.
* **Scores by school size:** The scores did not have any impact on school size.
* **Scores by school type:** The scores did not have any impact on school type.

## Summary: The following impacts were made to the updated School District Analysis because the 9th Grade Scores were removed from Thomas High School. 1) The Total Student Count was affected because of a discuss of students by 491. Which updated the Total Student Count to 38,709; 2) The removal of the 9th grade scores did slightly change the reading and math scores averages for Thomas High School as a whole, but nothing of significant impact; 3) Replacing the 9th Grade scores did make an impact to other schools by a range of 1-7 percent; 4) The updated School Summary DataFrame is affected by the Reading and Math Score averages for Thomas High School. Though it is affected, the differences are only by a tenth of percentage.