

You can download the data set from this link: <http://catalog.data.gov/dataset/sat-results-e88d7>

If you take a quick look at the dataset, you will find a list of schools and their senior student SAT results for year 2012.

Please use CSV reader to read the data. Note that the first row of the CSV file is column headers -- use next() function to skip the very first row.

You will need a class with exactly 5 fields for the 5 columns of information you will need from the CSV file -- you can skip the column named DBN. We will keep a list of schools and do all the functionality on this list.

Here are the features we need:

Feature 1: Overall Report

Go over all schools and report the schools with minimum and maximum scores. The score of a schools is the sum of the school's average readings, math and writing scores.

Feature 2: Average Score by Student Count

Report the average SAT score (sum of reading math and writing) grouped (segmented) by the number of students. You should groups as following:

Average score among schools where the # of test takers ≤ 100

Average score among schools where the # of test takers > 100 and ≤ 200

Average score among schools where the # of test takers > 200 and ≤ 500

Average score among schools where the # of test takers > 500 and ≤ 1000

Average score among schools where the # of test takers > 1000

Plot the results on a graph so we can see if there is a correlation between school size and score.

Feature 3: Math Minds

We are looking for particular schools where Math scores are significantly higher than the reading or writing scores. Note that this is not necessarily the school with highest math scores. These are schools whose math scores are higher with a significant percentage from the maximum of reading or writing score.

You want to find the top 5 schools that has the highest math_mind. For each school math_mind percentage can be found as $\text{math_mind} = \text{math_score} / \max(\text{read_score}, \text{write_score})$.

Make sure that your class has a method GetMathMindScore() that computes and returns math_mind.

Make sure that your code is properly commented. Good luck!!