**Written Report**

On this assignment we are given two data sets. On the first data set we have the data of 15 schools with budget, type and student size of each school. On the second data set we have detailed info about each student regarding to their math and reading scores.

To be able to analyze this data we need to merge the 2 data sets to obtain information that we can analyze.

First off by merging the 2 tables we have a combined table in which we can see the math and reading scores per student with its grade, school name, type of school and budget

A screenshot of a computer

Description automatically generated

Then by doing some calculations with this table we can get to our first summary:

A table with numbers and a number of people

Description automatically generated with medium confidence

In this first summary table, we can get some important data as the percentage per school of population passing math, reading and overall, and we can see the type of school and budget assigned to each school.

We can then do some more calculations to get the Highest and Lowest performing schools by overall passing percentages:

**Highest-Performing Schools (by % Overall Passing)**

A screenshot of a graph

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**Bottom Performing Schools (By % Overall Passing)**

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We can then do some calculations with these aggregated data to get the math and reading scores by grade on each school

|  |  |
| --- | --- |
| **Math Scores by Grade** | **Reading Score by Grade** |
| A table with numbers and text  Description automatically generated | A screenshot of a computer  Description automatically generated |

We can see here that in most of the cases the reading scores are greater than the math scores regardless the grade.

Now we can get more data by classifying some parameters that we are interested in analyzing. One would be by doing budget containers in which we can set ranges of budgets per student to see if there is a relation between having more budget an getting an improvement on overall passing percentage:

A table with numbers and a number of students

Description automatically generated with medium confidence

With the table we can kind of see that there isn’t a direct correlation between having more budget and getting an improvement on overall passing percentage, however, we can reduce more this table by getting the averages of passing within each of the budget ranges to obtain this table:  
A screenshot of a graph

Description automatically generated

With the table we can see that for the given data there isn’t a relationship between having more budget spend per student and having a greater percentage of population passing, in fact, is the other way. Thus we can do more analysis with other tables to see if other variables are involved on the rate of passing.

We can create now a table based on the number of students to see if a school is small, large or medium on population and see if this influences the overall passing percentages.

A table with numbers and a few rows of numbers

Description automatically generated with medium confidence

Then we can reduce the table by each of the segments we assigned to have a more concise dataset to analyze

A screenshot of a graph

Description automatically generated

With the table we can observe that when the school population exceeds 2’000 students the overall passing percentage drops down. The ranges between medium and small population passing percentages are very similar so we could say that there is a limit of students to maintain a good overall passing percentage.

We can do now another table to see the percentage comparing the type of schools:

A screenshot of a graph

Description automatically generated

With this table we can see that the Charter schools have a much better overall passing percentage than the district schools. This can be by diverse reasons as the independent operation of the charter schools to the district schools and the goals that somehow can be more focused on raising student grades and test scores. Another factor as we saw before can be the population size of the schools in which by the size of the charter schools that are smaller we can infer that there is a better way to assess each student as the population per grades maybe isn’t too big as in a big populated school.