

## 1) Summarize the analysis.

Based on the code, here is the output and the data:

Here's the summary of the analysis based on the provided code outputs:

### District Summary

1. \*\*Total Number of Unique Schools:\*\* 15
2. \*\*Total Students:\*\* 39,170
3. \*\*Total Budget:\*\* \$24,649,428.00
4. \*\*Average Math Score:\*\* 78.99
5. \*\*Average Reading Score:\*\* 81.88
6. \*\*% Passing Math:\*\* 74.98%
7. \*\*% Passing Reading:\*\* 85.81%
8. \*\*% Overall Passing (Both Math and Reading):\*\* 65.17%

### School Summary

Highest-Performing Schools (by % Overall Passing)

1. Cabrera High School
  - School Type: Charter
  - Total Students: 1,858
  - Total School Budget: \$1,081,356.00
  - Per Student Budget: \$582.00
  - Average Math Score: 83.06
  - Average Reading Score: 83.98
  - % Passing Math: 94.13%
  - % Passing Reading: 97.04%
  - % Overall Passing: 91.33%
2. Thomas High School
  - School Type: Charter
  - Total Students: 1,635
  - Total School Budget: \$1,043,130.00
  - Per Student Budget: \$638.00
  - Average Math Score: 83.42
  - Average Reading Score: 83.85
  - % Passing Math: 93.27%
  - % Passing Reading: 97.31%
  - % Overall Passing: 90.95%
3. Griffin High School
  - School Type: Charter
  - Total Students: 1,468
  - Total School Budget: \$917,500.00
  - Per Student Budget: \$625.00
  - Average Math Score: 83.35
  - Average Reading Score: 83.82
  - % Passing Math: 93.39%
  - % Passing Reading: 97.14%
  - % Overall Passing: 90.60%
4. Wilson High School
  - School Type: Charter
  - Total Students: 2,283
  - Total School Budget: \$1,319,574.00
  - Per Student Budget: \$578.00

- Average Math Score: 83.27
- Average Reading Score: 83.99
- % Passing Math: 93.87%
- % Passing Reading: 96.54%
- % Overall Passing: 90.58%

5. Pena High School

- School Type: Charter
- Total Students: 962
- Total School Budget: \$585,858.00
- Per Student Budget: \$609.00
- Average Math Score: 83.84
- Average Reading Score: 84.04
- % Passing Math: 94.59%
- % Passing Reading: 95.95%
- % Overall Passing: 90.54%

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

1. Rodriguez High School

- School Type: District
- Total Students: 3,999
- Total School Budget: \$2,547,363.00
- Per Student Budget: \$637.00
- Average Math Score: 76.84
- Average Reading Score: 80.74
- % Passing Math: 66.37%
- % Passing Reading: 80.22%
- % Overall Passing: 52.99%

2. Figueroa High School

- School Type: District
- Total Students: 2,949
- Total School Budget: \$1,884,411.00
- Per Student Budget: \$639.00
- Average Math Score: 76.71
- Average Reading Score: 81.16
- % Passing Math: 65.99%
- % Passing Reading: 80.74%
- % Overall Passing: 53.20%

3. Huang High School

- School Type: District
- Total Students: 2,917
- Total School Budget: \$1,910,635.00
- Per Student Budget: \$655.00
- Average Math Score: 76.63
- Average Reading Score: 81.18
- % Passing Math: 65.68%
- % Passing Reading: 81.32%
- % Overall Passing: 53.51%

4. Hernandez High School

- School Type: District
- Total Students: 4,635
- Total School Budget: \$3,022,020.00
- Per Student Budget: \$652.00
- Average Math Score: 77.29
- Average Reading Score: 80.93
- % Passing Math: 66.75%
- % Passing Reading: 80.86%

- % Overall Passing: 53.53%

5. Johnson High School

- School Type: District
- Total Students: 4,761
- Total School Budget: \$3,094,650.00
- Per Student Budget: \$650.00
- Average Math Score: 77.07
- Average Reading Score: 80.97
- % Passing Math: 66.06%
- % Passing Reading: 81.22%
- % Overall Passing: 53.54%

### **Math Scores by Grade**

- Bailey High School:

- 9th Grade: 77.08
- 10th Grade: 77.00
- 11th Grade: 77.52
- 12th Grade: 76.49

- Cabrera High School:

- 9th Grade: 83.09
- 10th Grade: 83.15
- 11th Grade: 82.77
- 12th Grade: 83.28

- Figueroa High School:

- 9th Grade: 76.40
- 10th Grade: 76.54
- 11th Grade: 76.88
- 12th Grade: 76.29

- Ford High School:

- 9th Grade: 77.36
- 10th Grade: 76.91
- 11th Grade: 76.18
- 12th Grade: 77.48

- Griffin High School:

- 9th Grade: 83.36
- 10th Grade: 83.80
- 11th Grade: 83.15
- 12th Grade: 82.24

- Hernandez High School:

- 9th Grade: 77.44
- 10th Grade: 77.34
- 11th Grade: 77.14
- 12th Grade: 77.19

- Holden High School:

- 9th Grade: 83.79
- 10th Grade: 83.79
- 11th Grade: 83.82
- 12th Grade: 83.84

- Huang High School:

- 9th Grade: 77.03
- 10th Grade: 76.90
- 11th Grade: 76.45

- 12th Grade: 76.86
- Johnson High School:
  - 9th Grade: 77.19
  - 10th Grade: 77.02
  - 11th Grade: 77.16
  - 12th Grade: 76.86
- Pena High School:
  - 9th Grade: 83.83
  - 10th Grade: 84.04
  - 11th Grade: 84.01
  - 12th Grade: 83.94
- Rodriguez High School:
  - 9th Grade: 76.86
  - 10th Grade: 76.62
  - 11th Grade: 76.40
  - 12th Grade: 77.14
- Shelton High School:
  - 9th Grade: 83.41
  - 10th Grade: 83.59
  - 11th Grade: 83.46
  - 12th Grade: 83.76
- Thomas High School:
  - 9th Grade: 83.68
  - 10th Grade: 83.70
  - 11th Grade: 83.53
  - 12th Grade: 83.47
- Wilson High School:
  - 9th Grade: 83.15
  - 10th Grade: 83.76
  - 11th Grade: 83.48
  - 12th Grade: 83.59
- Wright High School:
  - 9th Grade: 83.26
  - 10th Grade: 83.68
  - 11th Grade: 83.71
  - 12th Grade:

Based of the data that is written is provided from the output of the code, here is the analysis of the summary:

- 1) Many important findings about the effectiveness and distribution of resources amongst 15 distinct schools were made possible by the district-wide investigation. With a combined budget of \$24,649,428 the district serves 39,170 kids in total. Students' academic performance can be inferred from their average math and reading scores of 78.99 and 81.88, respectively. The percentage of children completing arithmetic (74.98%) differs significantly from the percentage passing reading (85.81%). With

65.17% passing rates overall for both disciplines, there is clearly a need for improvement in math education in particular.

- 2) District schools were regularly outpaced by charter schools when analyzing individual school performance. At Cabrera High School, 91.33% of pupils passed both reading and math, making it the highest performer. With overall passing rates exceeding 90%, Thomas High School and Griffin High School are two more top-performing charter schools. In addition to having excellent academic records, these schools also effectively manage their finances, spending much less on each student than district schools.
- 3) On the other hand, passing rates at the lowest-performing institutions—mostly district schools like Figueroa High School and Rodriguez High School—are far lower, averaging about 53%. Despite having inferior academic achievement, these schools spend more per student, which may indicate inefficient use of resources.
- 4) As arithmetic scores by grade level were analyzed, it was found that most schools had a consistent pattern of pupils' performance significantly falling as they went from the ninth to the twelfth grade. The need for focused interventions at higher grade levels is further highlighted by the fact that this decline is particularly noticeable in district schools.
- 5) Overall, the research points to the need for targeted improvement in math education even while the district does well in reading. Charter schools provide district schools with possible best practices to imitate because of their efficient use of resources and improved student performance. Resolving the differences in performance and resource distribution between district and charter schools may result in notable enhancements to the district's overall academic performance.

## **2) Draws two correct conclusions or comparisons from the calculations**

### **1. Charter Schools vs. District Schools Performance:**

There is a noticeable performance difference between district and charter schools, according to the data. Charter schools with consistently high overall passing rates above 90% include Cabrera High School, Thomas High School, and Griffin High School. Conversely, district schools with substantially lower passing rates—roughly 53%—include Rodriguez High School and Figueroa High School. This implies that charter schools are more successful in helping children achieve academic success, maybe as a result of improved resource management, instructional strategies, or other elements.

### **2. Efficiency in Budget Utilization:**

Spending per pupil shows a glaring difference between low-performing public schools and high-performing charter schools. Charter schools outperform public schools academically even though they spend less money on each student. When compared to district schools that do worse, Cabrera High School, which has one of the best passing percentages overall, manages its budget more effectively. This suggests that increased spending does not always translate into improved academic performance, highlighting the significance of effective resource allocation and use in promoting student achievement.