

Exploring NYC Public School Test Result Scores

Introduction

The analysis focuses on evaluating test result scores of public schools in New York City (NYC). The primary goal is to identify which schools excel in math performance and explore overall SAT performance across different boroughs of NYC. The analysis utilizes Python's pandas library for data manipulation and visualization libraries like seaborn and matplotlib for graphical representation.

Methodology

1. Data Loading:

- The analysis begins with loading the dataset "schools.csv" using pandas to understand the available data.

2. Identifying Best Math Performing Schools:

- The analysis identifies schools with the best math results by filtering schools with math scores above 80% of the maximum score (800).
- The top-performing schools are sorted based on average math scores.

3. Top 10 Performing Schools Across SAT Sections:

- The analysis computes the total SAT score for each school by summing math, reading, and writing scores.
- The top 10 schools based on total SAT scores across all sections are determined.

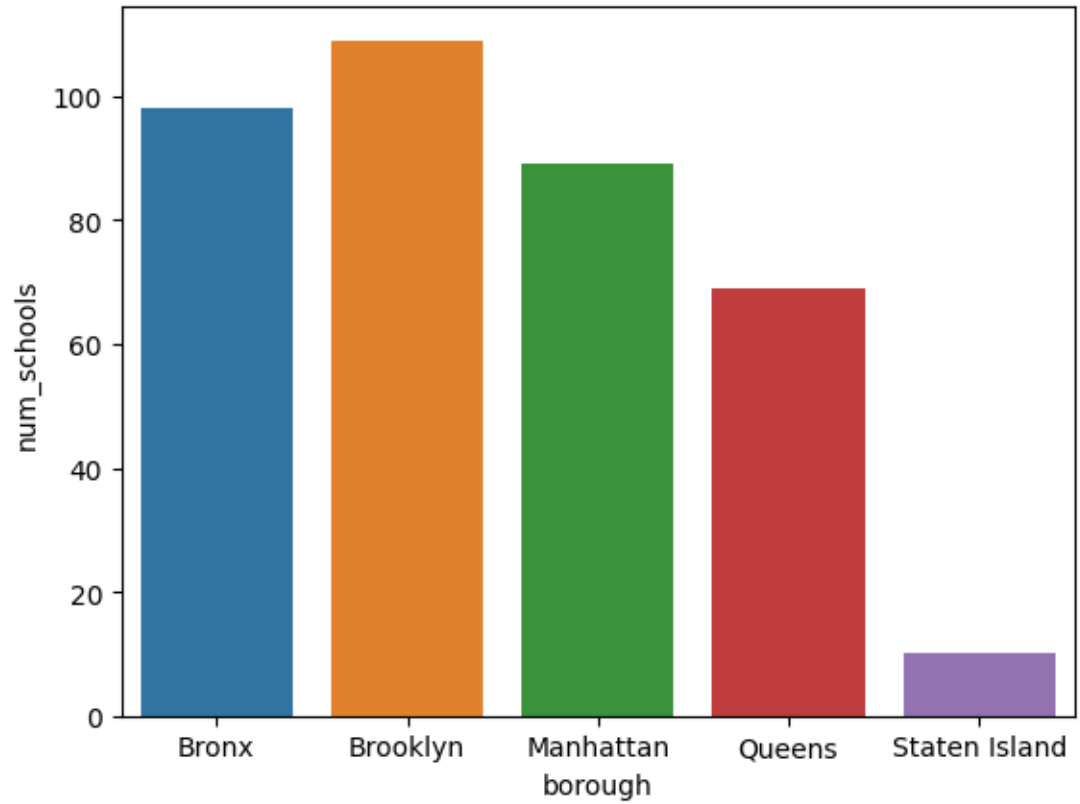
4. Borough-wise Analysis:

- The analysis groups schools by borough and calculates metrics like the number of schools, average SAT score, and standard deviation of SAT scores.
- The borough with the largest standard deviation in SAT performance is identified.

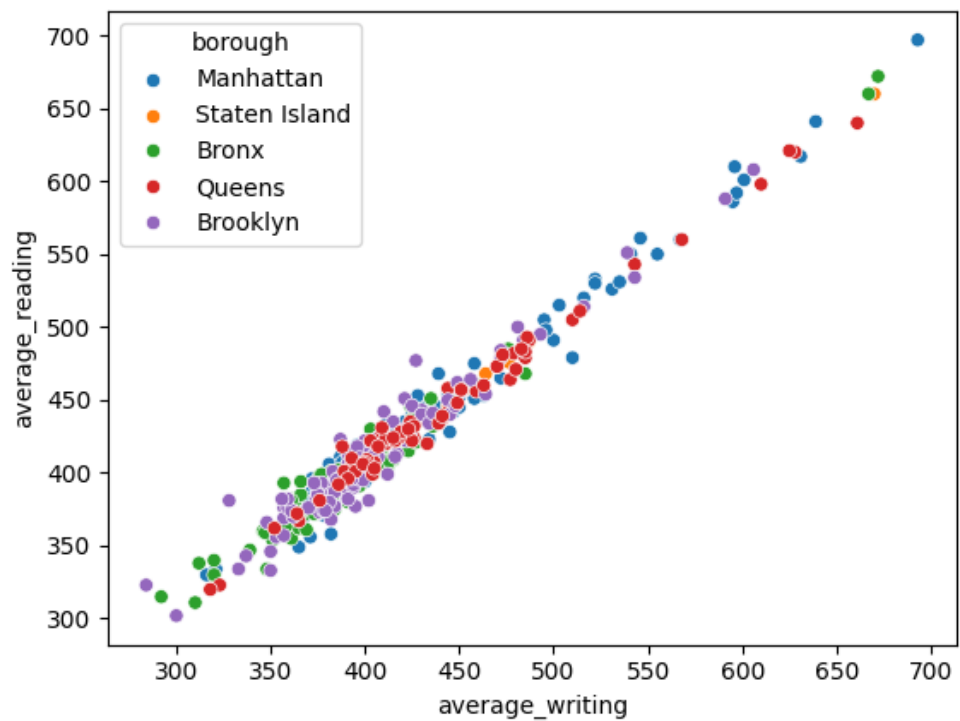
Visualizations

- Various visualizations are created using seaborn and matplotlib to depict the analysis findings:

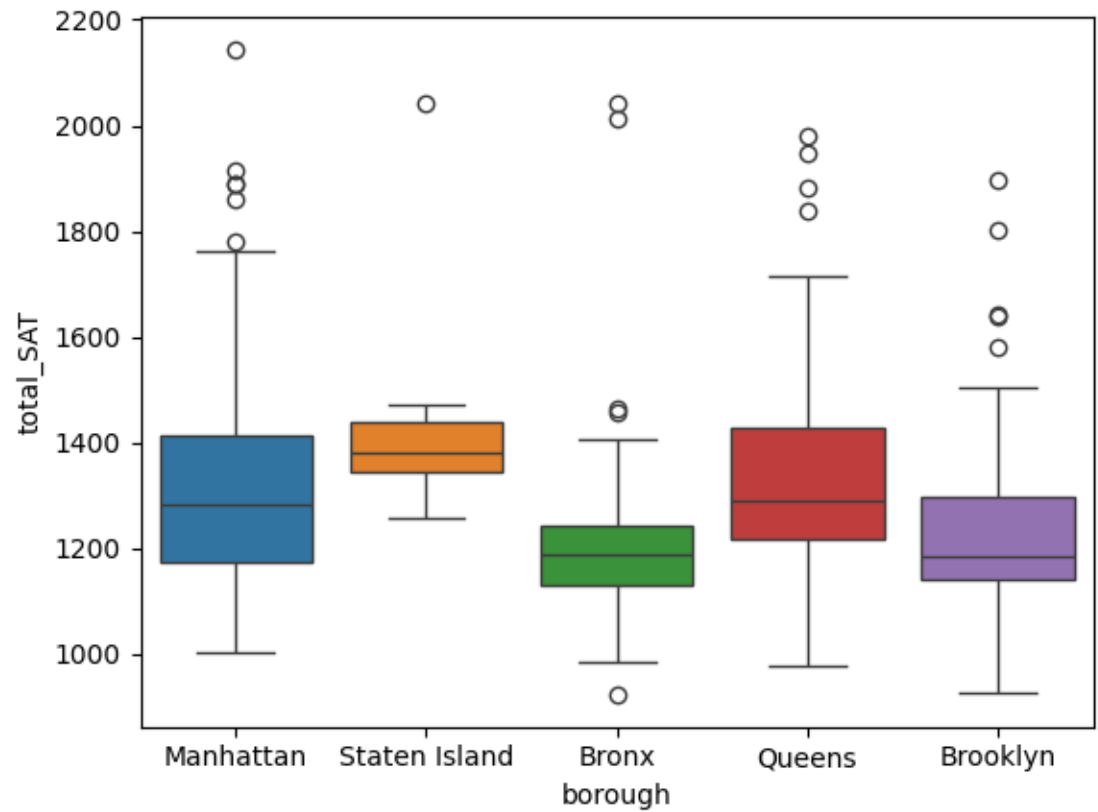
- Bar plots illustrating the number of schools and average SAT scores per borough.



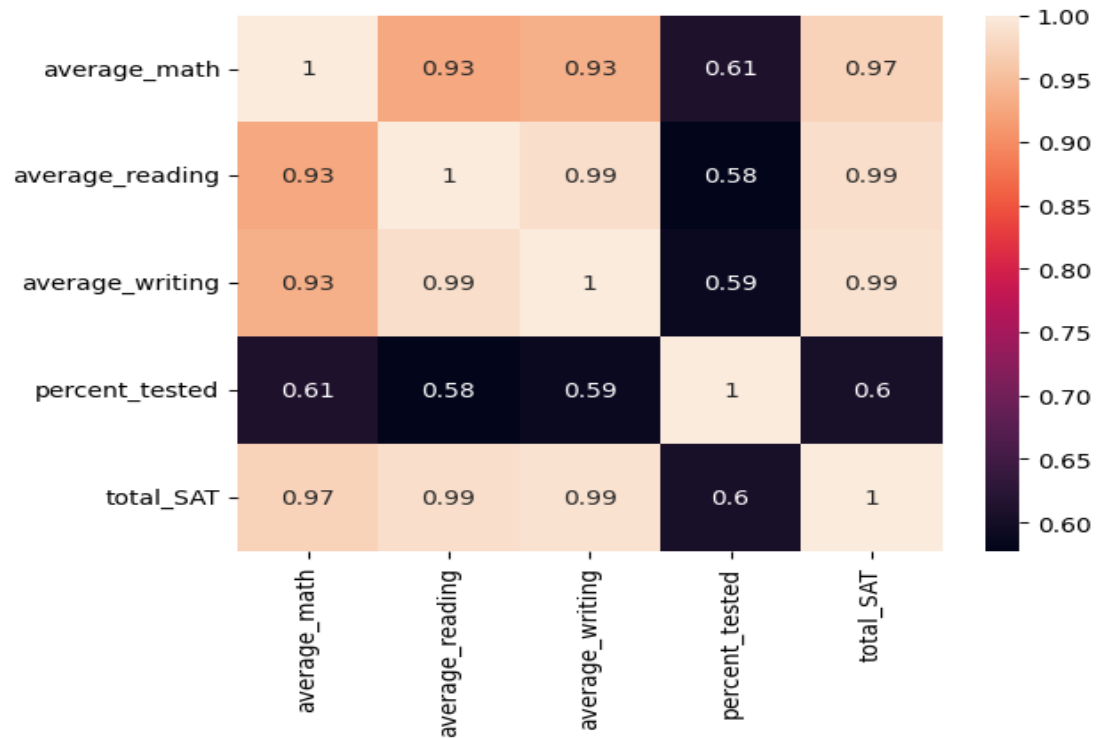
- Scatterplot exploring relationships between avg_reading and avg_writing.



- Box plots to visualize the distribution of total SAT scores across boroughs.



- heatmap exploring relationships between features.



Results

1. Best Math Performing Schools:

- The analysis identifies schools with exceptional math performance, showcasing their average math scores.

2. Top 10 SAT Performing Schools:

- The top-performing schools based on total SAT scores are listed, reflecting their overall academic excellence.

3. Borough-wise Analysis:

- The borough with the largest standard deviation in SAT performance is highlighted, indicating variations in academic achievement across boroughs.

4. Visual Insights:

- Visualizations provide a clear understanding of the distribution and relationships among test scores, schools, and boroughs.

Conclusion

The analysis sheds light on NYC public schools' test result scores, highlighting top-performing schools, borough-wise variations, and insights into math performance. These findings can be valuable for education policymakers, parents, and educators to understand academic strengths and areas for improvement across NYC schools.