



# STUDENTS PERFORMANCE ANALYSIS REPORT

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# Students Performance Analysis Report

## 1. Data Gathering

This data is in CSV format, imported from [Kaggle](#) website.

## 2. Data Wrangling

### 2.1. Cleanliness

- Invalid Dtypes: Dtypes are well chosen
- Completeness: Data is complete
- Uniqueness: No duplicates found
- Accuracy: No illogical data found
- Consistency: All data share the same format

### 2.2. Tidiness

The table structure commit to the basic Tidiness rules

## 3. Getting Ready for the analysis

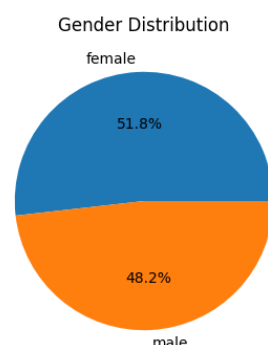
I have made the data ready for the analysis, as I have:

1. Added the total column
2. Added the percentage column
3. Removed the race/ethnicity column
4. Changed the values in test preparation to Prepared/ Not Prepared

## 4. Data Analysis and Visualization

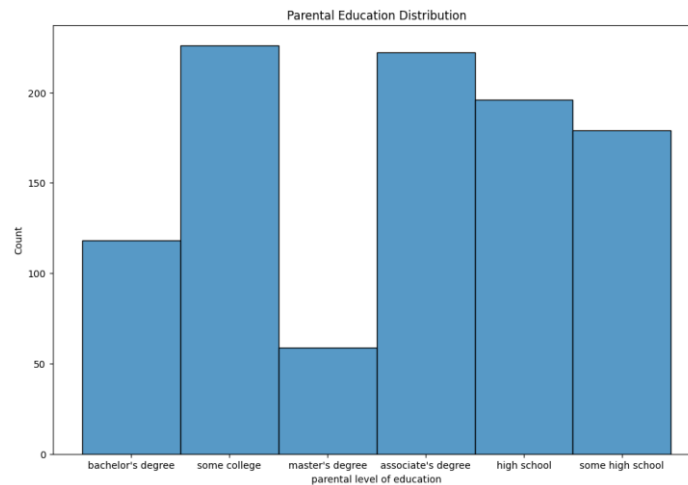
Question 1: Which gender is more common in this data, females or males?

In this data, Females are slightly more common than males



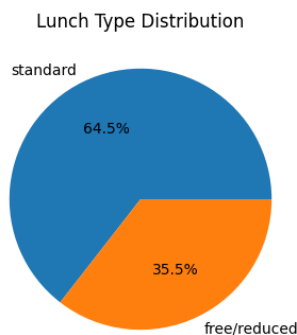
## Question 2: What is the most common Parental degree?

The 'some college' degree is the most common Educational degree among parents, while the "Master's" degree is the least common among parents



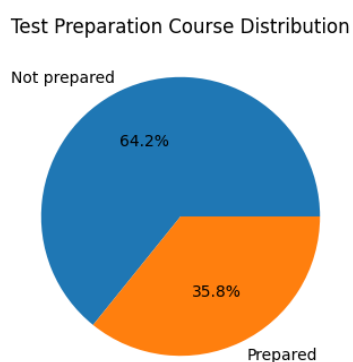
## Question 3: What is the most common lunch type?

The standard lunch is more common than free/reduced lunch among students



## Question 4: Are the students mostly ready for the tests or not?

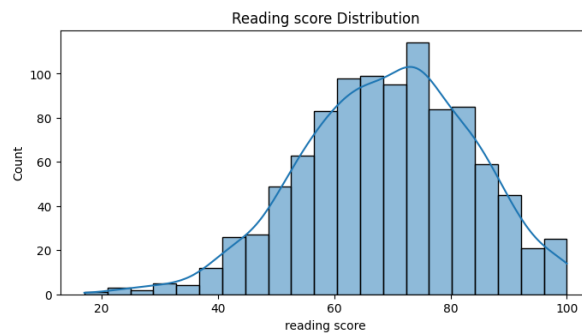
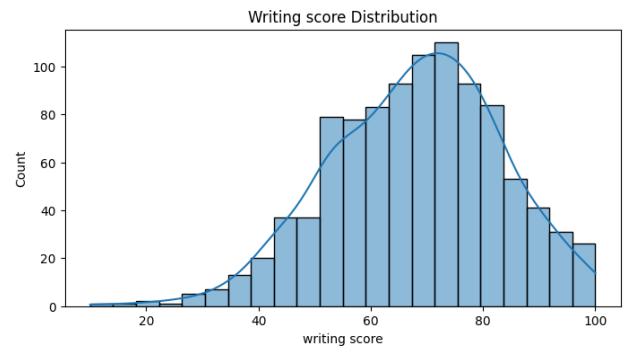
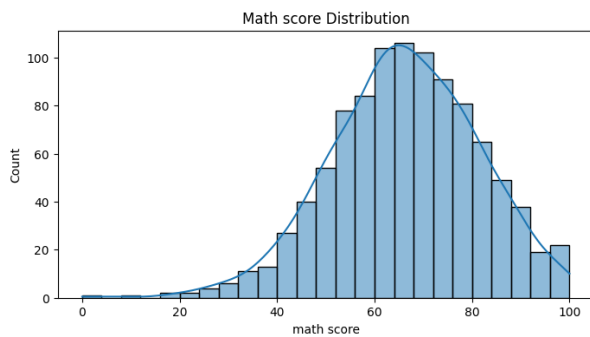
Most students in this data aren't ready for their tests



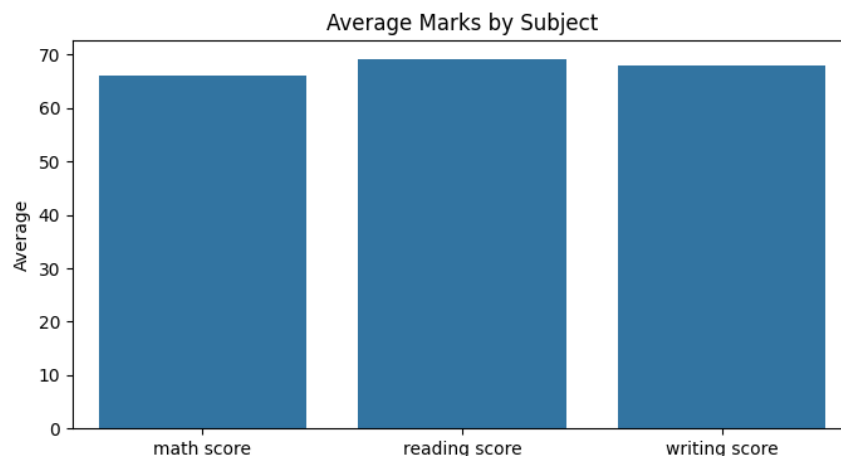
Question 5: What is the average for each subject, and which subject has the highest average?

- Math: The data is slightly left-skewed with an average of about 62 marks
- Reading: The data is also slightly left-skewed with an average of about 67 marks
- Writing: The data is also slightly left-skewed with an average of about 65 marks

Let's take a closer look at the averages to see which subject has the highest average of marks

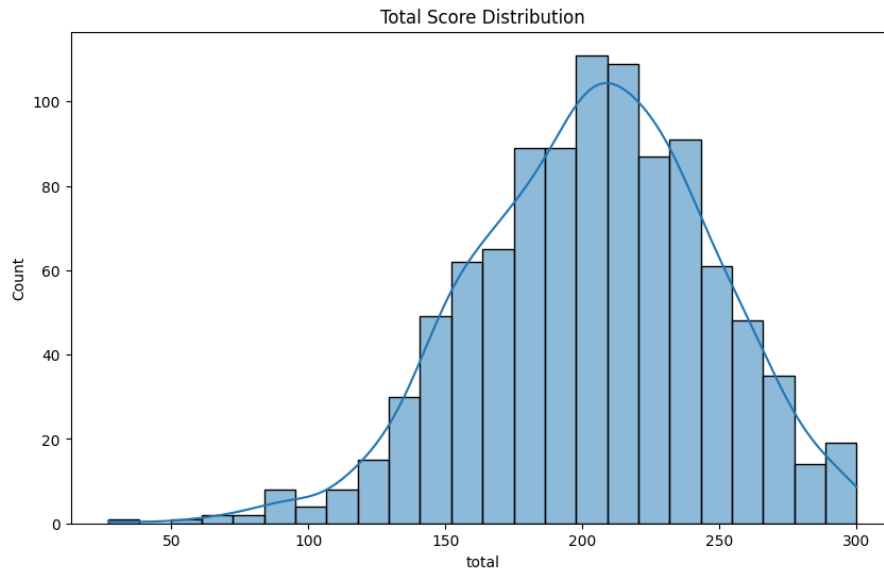


As we have seen, Reading has the highest average of marks

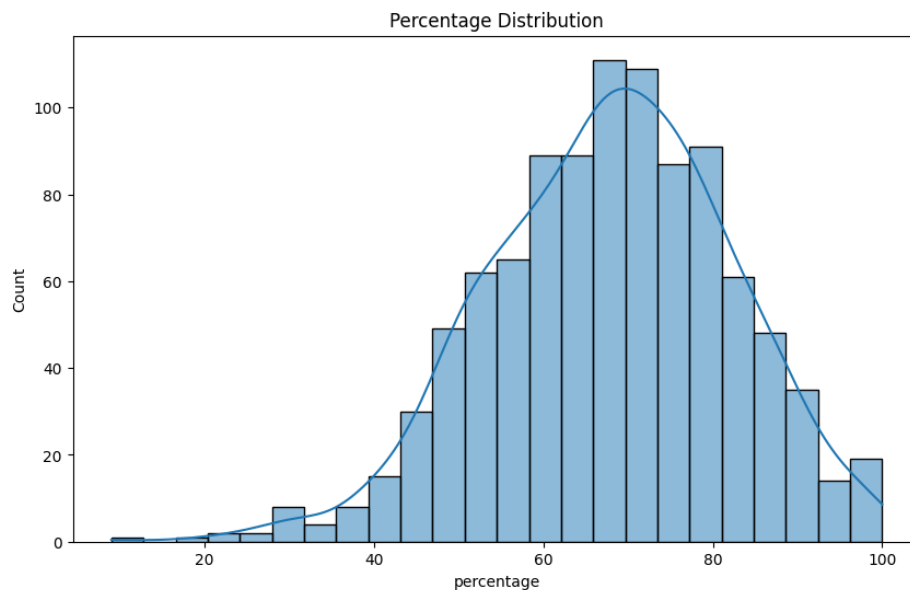


Question 6: What is the average total score and average percentage?

The total data is slightly left skewed, having an average of about 205 marks out of 300 marks

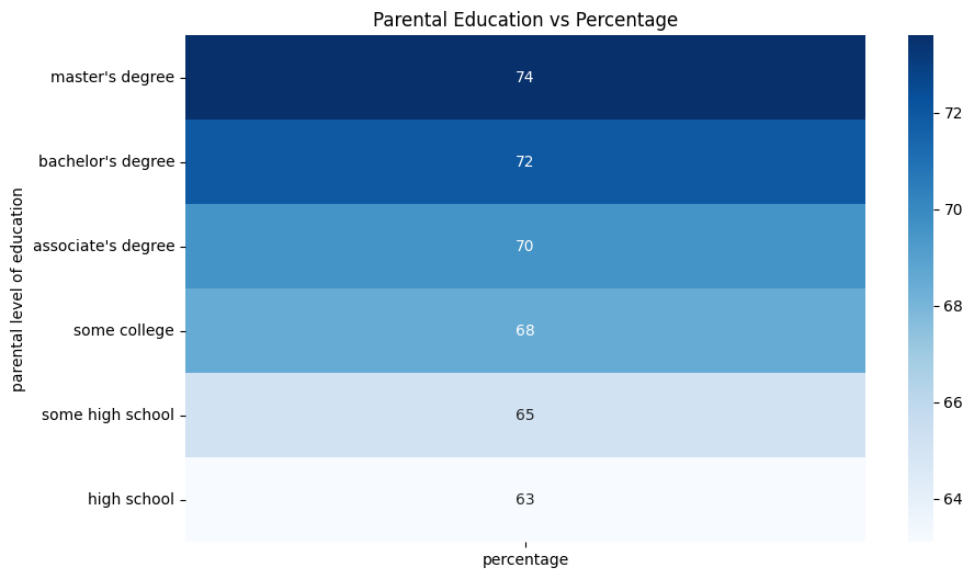


The Percentage data is also slightly left skewed, with an average of about 70%



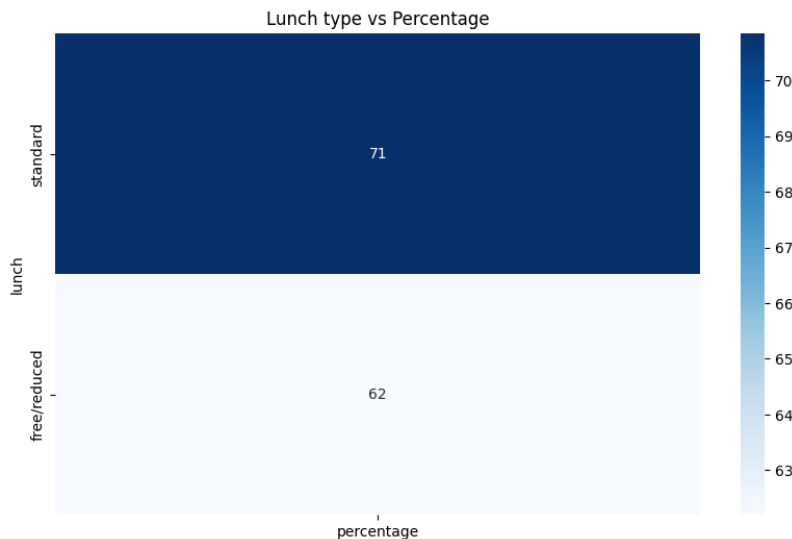
### Question 7: What is the relation between Parental education and students' percentage?

There is a slight positive correlation (direct relation) between Parental degree of education and the student's grades, where the better parental education, the higher marks the student gets



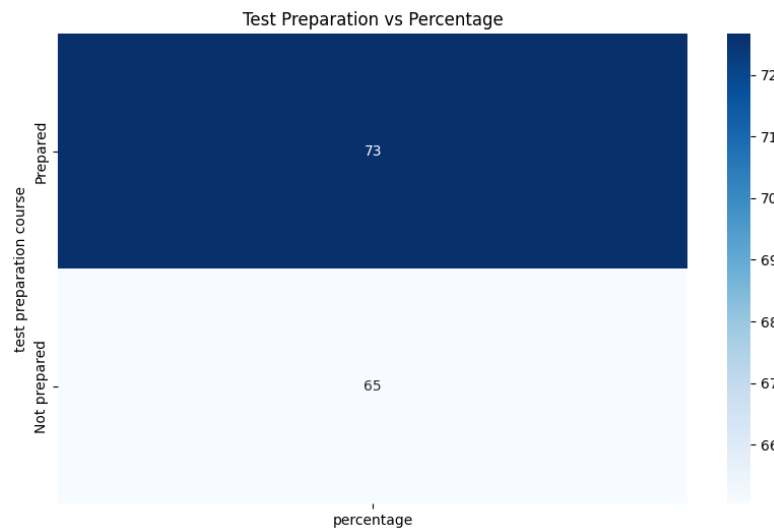
### Question 8: What is the relation between Lunch type and students' percentage?

There is a slight positive correlation (direct relation), as the students who have Standard Lunch tend to get higher marks than those who have free/reduced Lunch



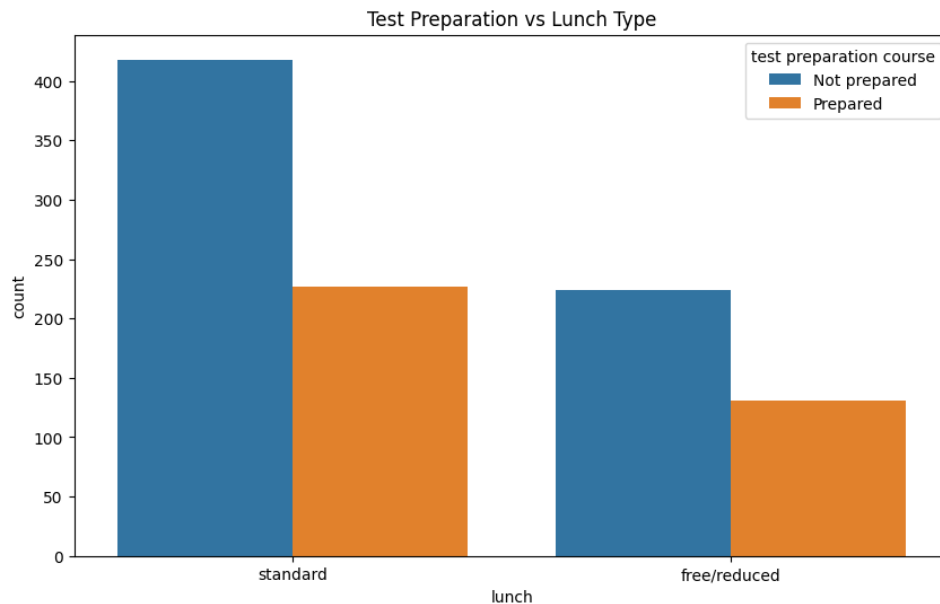
### Question 9: What is the relation between Test preparations and students' percentage?

Also, there is a positive correlation (direct relation) between test preparation status and Students' percentage, as students who are prepared for the test tend to have higher marks than those who aren't prepared



### Question 10: What is the relation between Test preparations and Lunch Type?

There is a dominance in the number of unprepared students, where the number of prepared students and number of unprepared students tend to rise or fall together, with the number of unprepared students always being the higher





### Question 11: What is the relation between Parental Educational degree and Lunch Type?

There is dominance of standard lunch across all parental levels of education. Both Lunch Types tend to rise or fall together, with standard Lunch always being the higher

