

# Student Performance Analysis

Introduction	Description of the project	Exploratory Data Analysis	Student Performance Dashboard	Does gender affect their performance?	Does their race/ethnicity affect their perfor..	D o ..
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## Understanding Student Performance : A Data-Driven Analysis

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### Introduction

This project focuses on analyzing and presenting the performance of male and female students. The report delves into math, reading, and writing scores to provide insights into gender-based differences in academic performance.

### Objective:

- The objectives of this project could include:
- Identify Key Factors Influencing Student Performance
  - Develop interactive dashboard
  - Provide Recommendations for Educational Improvement

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**Dataset:** Student Performance Prediction Data Set (Kaggle)

## Problem Statements

Here are three problem statements we can analyze:

1. Analyze the impact of socio-economic factors on student performance (such as races/parental education/type of lunch)
2. Examine the relationship between exam preparation and student performance
3. Investigate the combined impact of multiple factors on student performance (total scores)

## Hypothesis

Four common hypothesis will be analyse that can affect student performance:

- Does race/ethnicity affect?
- Does their parents education can affect?
- Does the type of lunch affect their performance?
- Does their exam preparation affect too?

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## Data Preparation and Cleaning Preparation

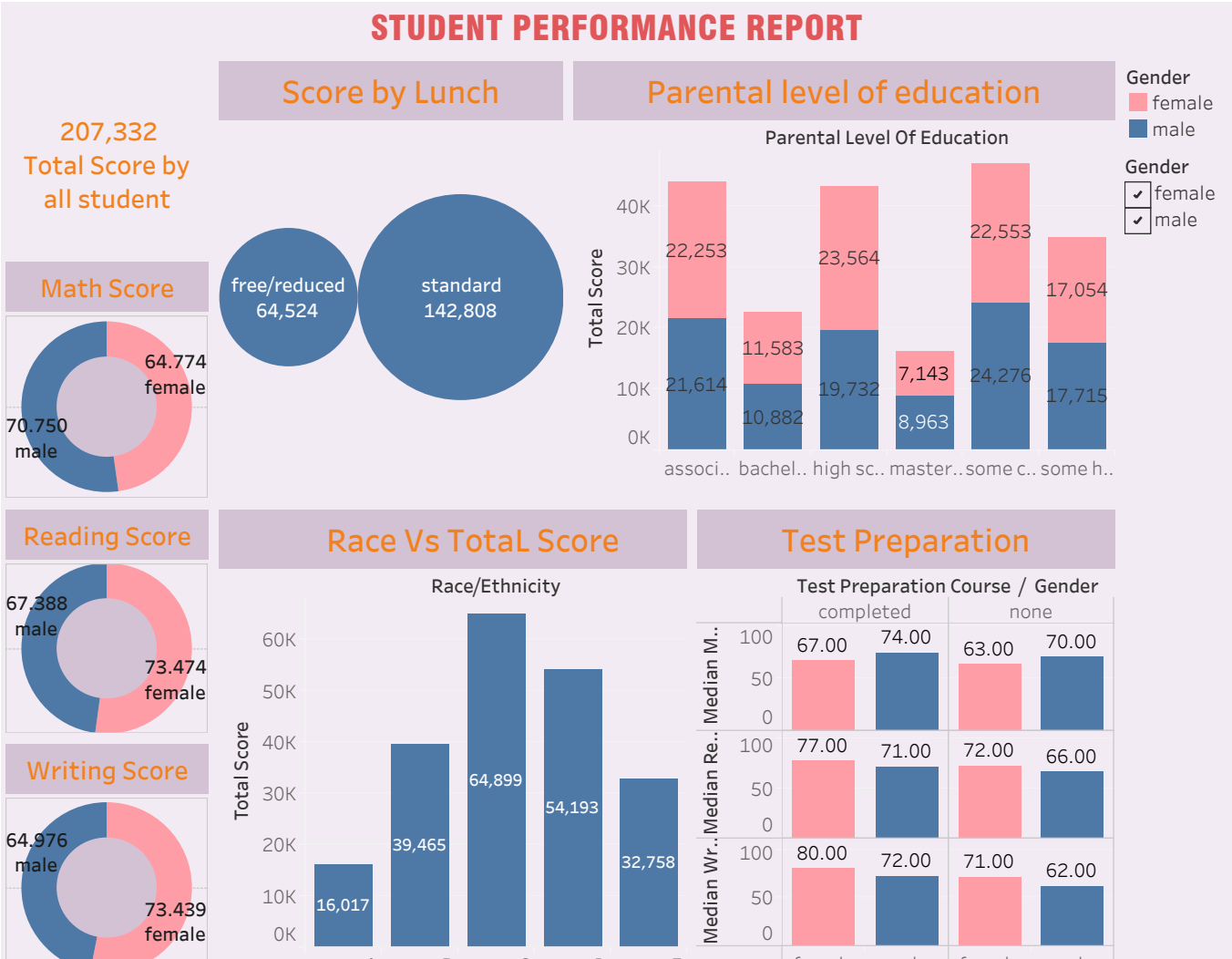
1. Extract data as `xlsx` format using Excel.
2. Create a table to analyze any unrecognized data (null, duplicate and etc)
3. Check data format type and change to correct format.
4. Check duplicate values (As result : There is no duplicate data and null values)
5. Change name column if necessary

### In excel process :

- Do aggregative function which is SUM for (total score for math, english and writing)  
`=SUM(F2,G2,H2)`
- Do the IF function to describe the level of achievement based on total score.  
`=IF(I2>=270,"High Achiever",IF(I2>=210,"Average","Below Average"))`
- There are 10 columns and 1001 rows.

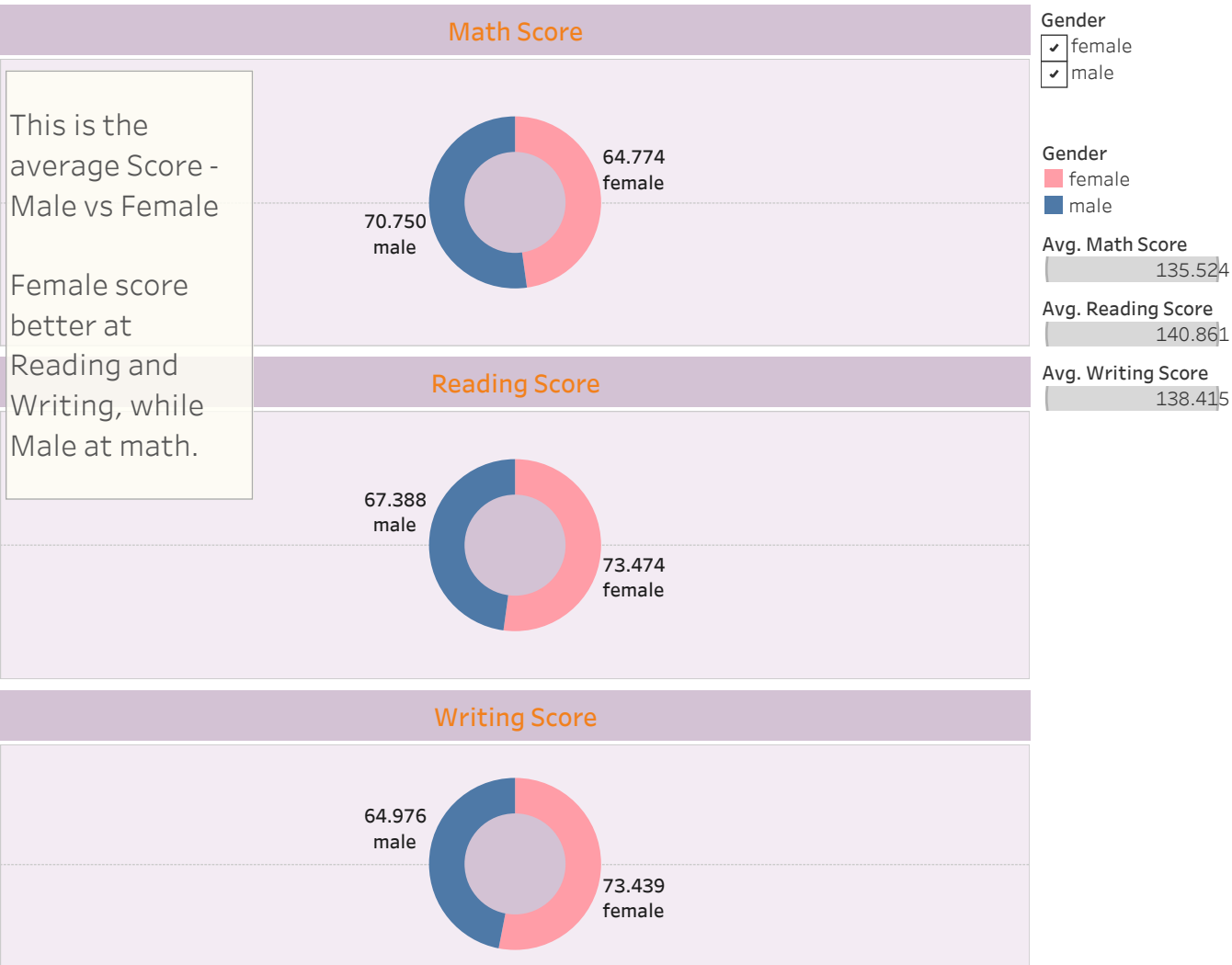
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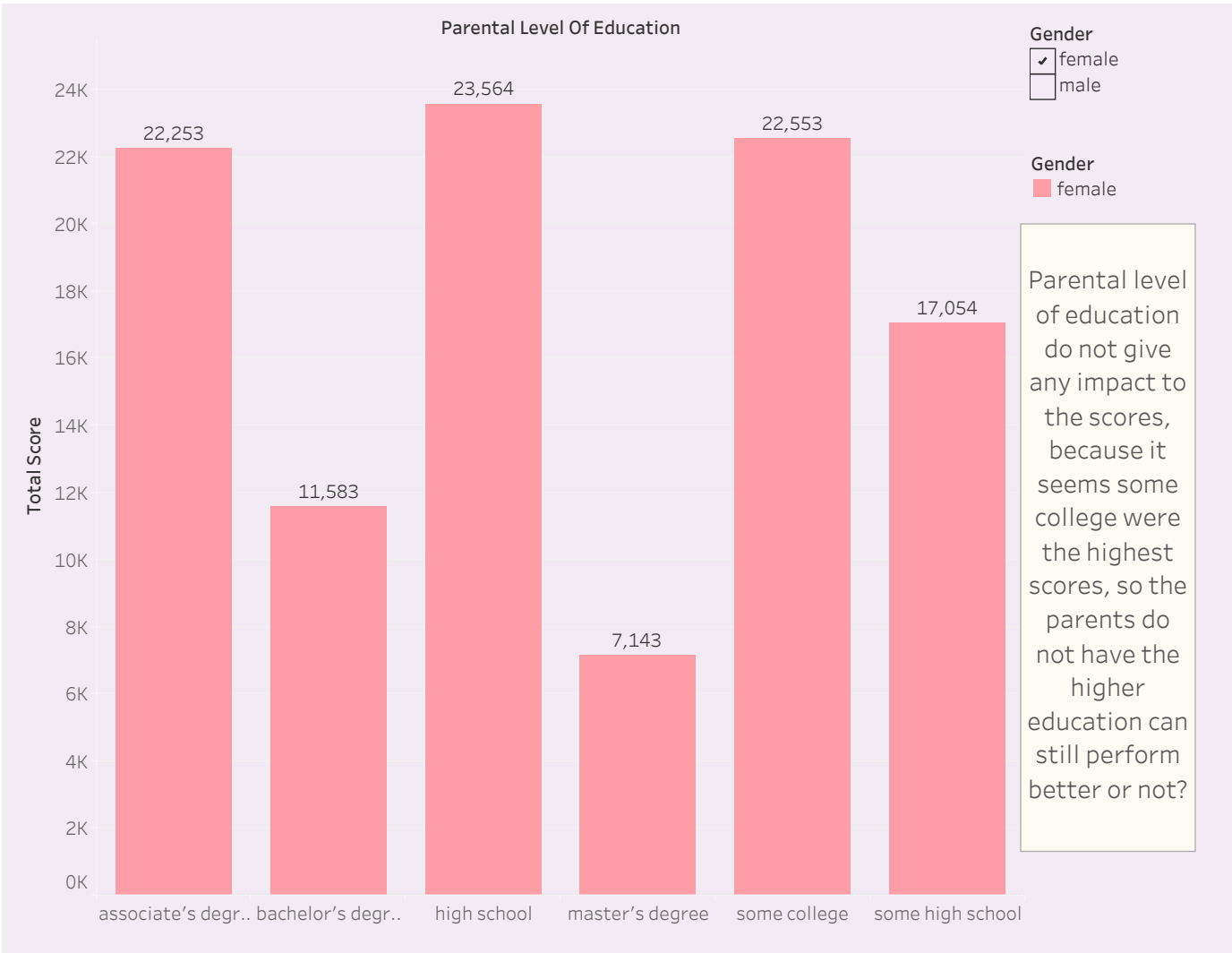
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# Student Performance Analysis

Student Performance Dashboard	Does gender affect their performance?	Does their race/ethnicity affect their performance?	Does their parents' education affect their performance?	Does their exam preparation affect their performance?	Does the type of lunch affect their performance?	Conclusion and Recommendation
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Gender

☒ female

☐ male



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### How can we improve their performance?

1. Mixed teams of students (gender, race, lunch, parents education) to work on the subjects under examination.
2. Attracting a budget for funding a standard lunch for all students.
3. Transforming the optional preparation course in compulsory course for admission to the exam.

### Recommendation :

- Will conduct statistical analysis in Excel, including correlation and regression analysis, to determine which factors most significantly influence student success.
- To ensure a precise of this project. I would recommend to use statistical data using Python who were expert at it.