PDS ASSIGNMENT – 1
# QUESTION – 2 RESULTS

Name: Vinisha Vimal Kumar Shukla   ID: 16344280

The visualizations used are:

1. Countplot for Race/Ethnicity
2. Boxplots for Math, Reading, and Writing Scores
3. Scatter plot of Math Score vs Reading Score
4. Countplot for Race/Ethnicity with Gender comparison
5. Pie chart for Distribution of Students by Race/Ethnicity
6. Bar plots for Average Math, Reading, and Writing Scores by Parental Level of Education
7. Pair plot for Comprehensive Analysis of the Dataset

#1. COUNTPLOT OF RACE/ETHNICITY
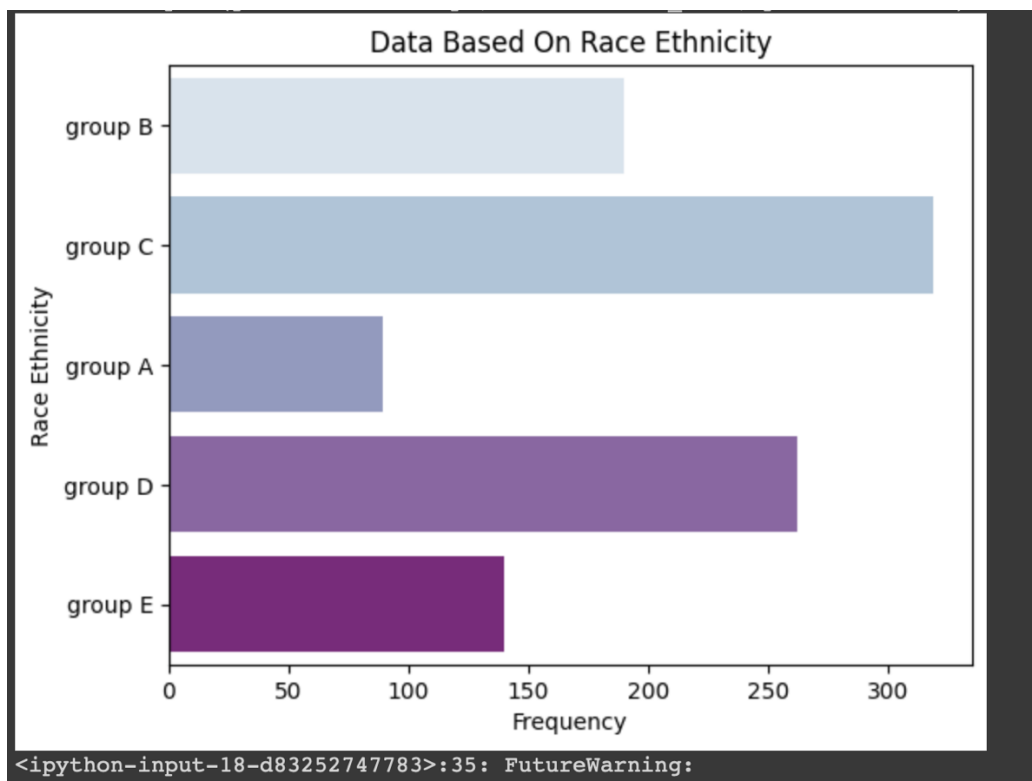

It becomes easier to understand the distribution of students across different race/ethnicity categories, facilitating comparison of representation.

## #2. BOXPLOTS OF MATH, READING, AND WRITING SCORES
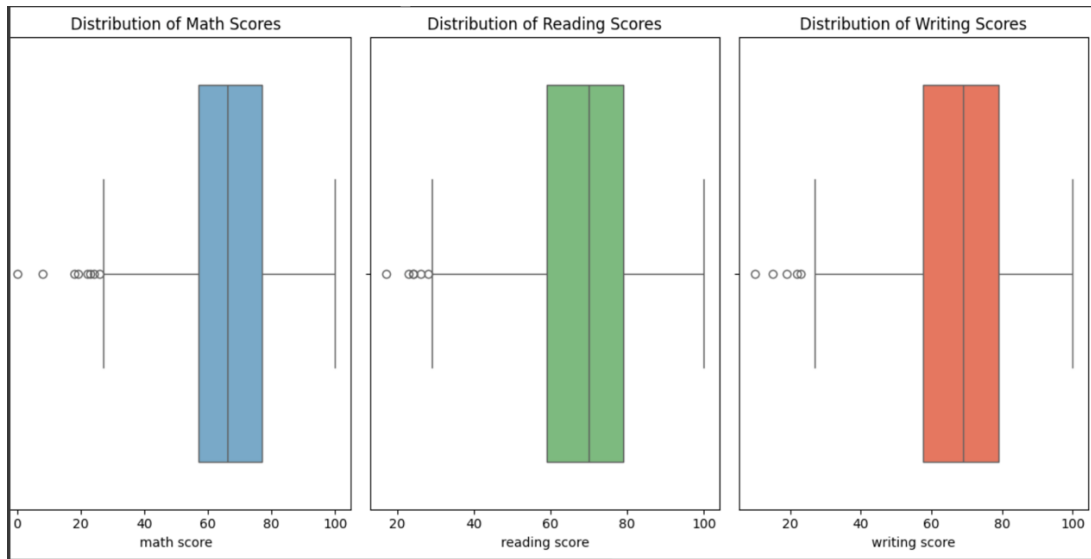
Provides a clear visualization of the central tendency, spread, and presence of outliers in each subject's score distribution, aiding in identifying performance variations and outliers across subjects.

## #3. SCATTER PLOT OF MATH SCORE VS READING SCORE (CORRELATION ANALYSIS):
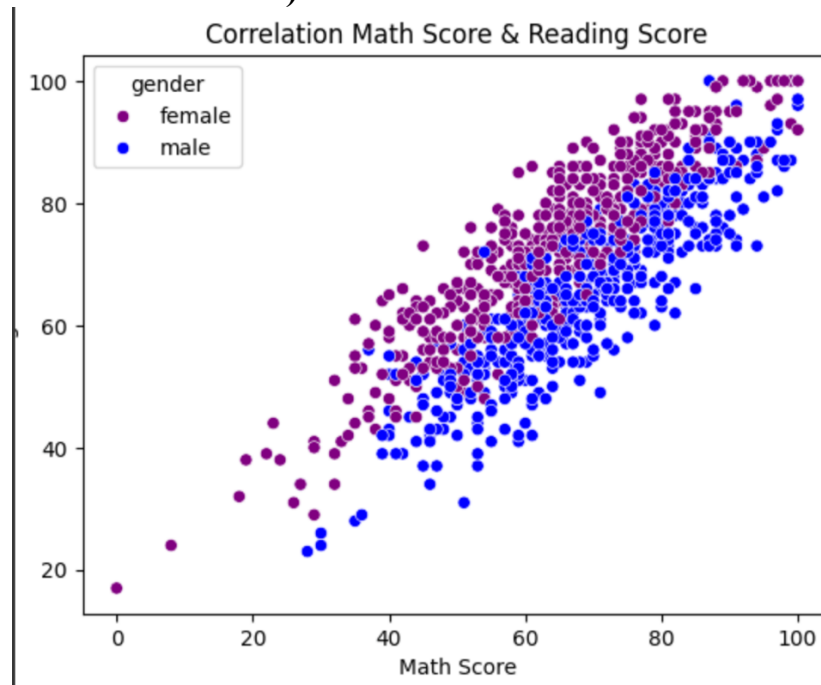
Enables quick assessment of the relationship between math and reading scores, especially with gender differentiation, allowing observation of potential patterns or trends between the two variables.

# #4. COUNTPLOT OF RACE/ETHNICITY WITH GENDER COMPARISON
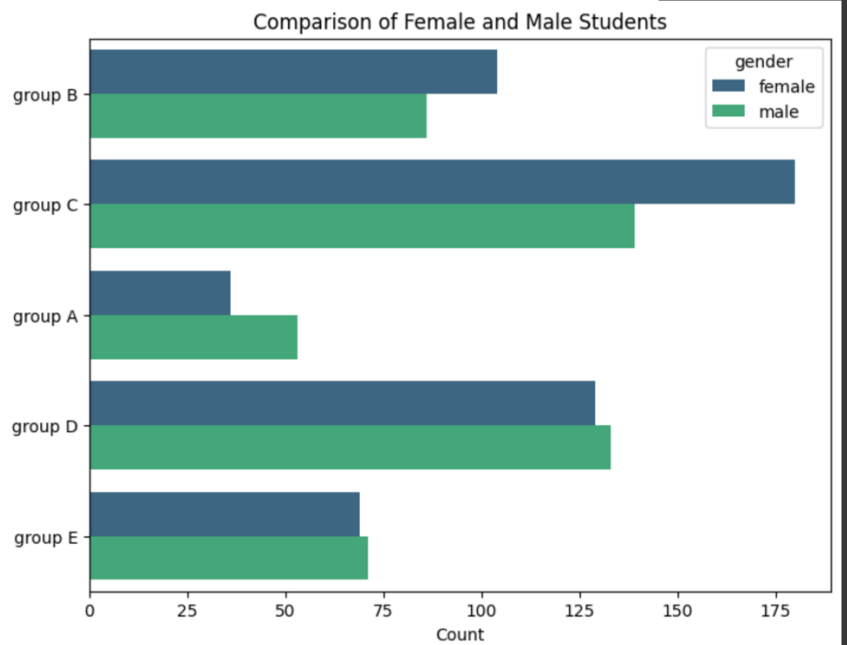
Facilitates comparison of gender distribution within each race/ethnicity category, providing insights into gender representation across different ethnic groups.

#5. PIE CHART OF RACE/ETHNICITY DISTRIBUTION
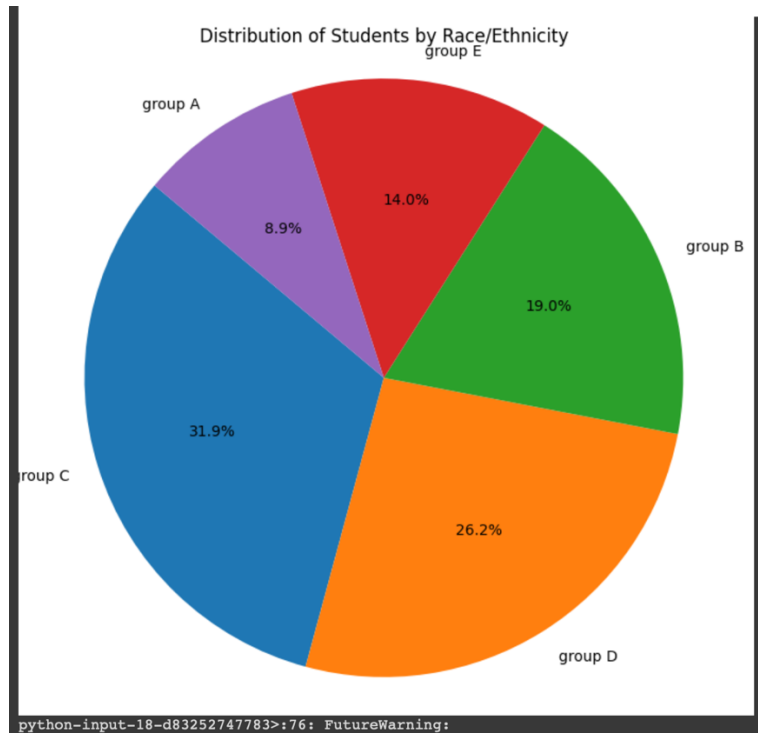
Offers a visual representation of the proportion of students from each race/ethnicity category, providing an overview of the diversity within the dataset.

#6. BAR PLOT OF AVERAGE SCORES BY PARENTAL LEVEL OF EDUCATION:

Average Math Score by Parental Level of Education

Average Reading Score by Parental Level of Education

Average Writing Score by Parental Level of Education
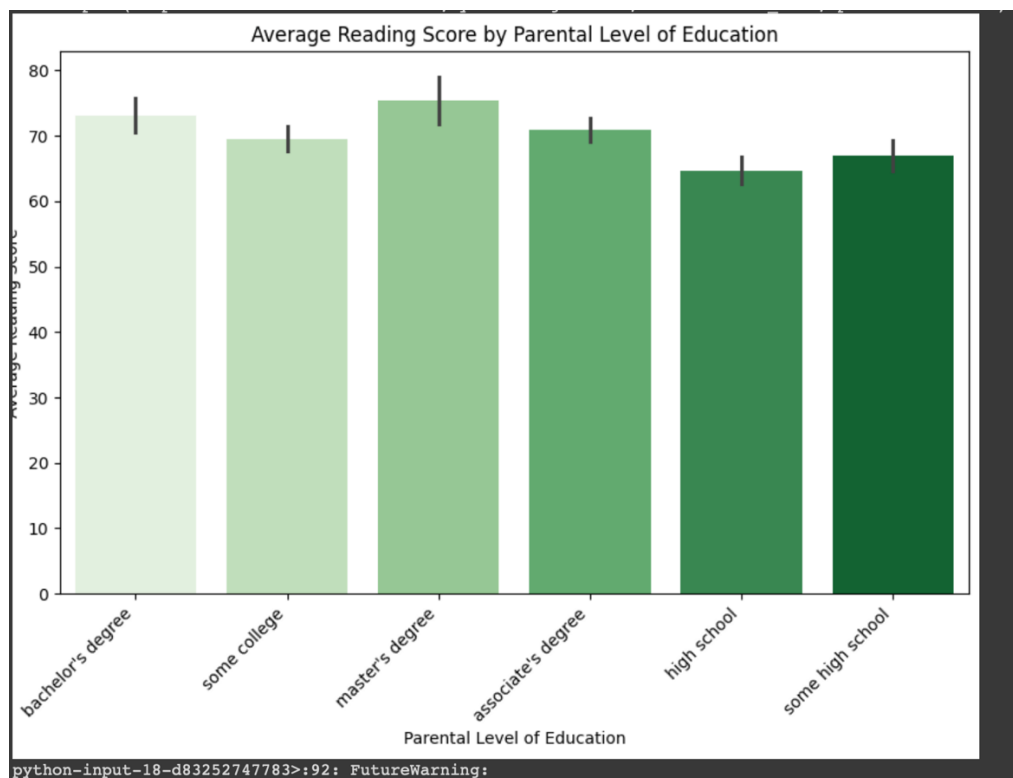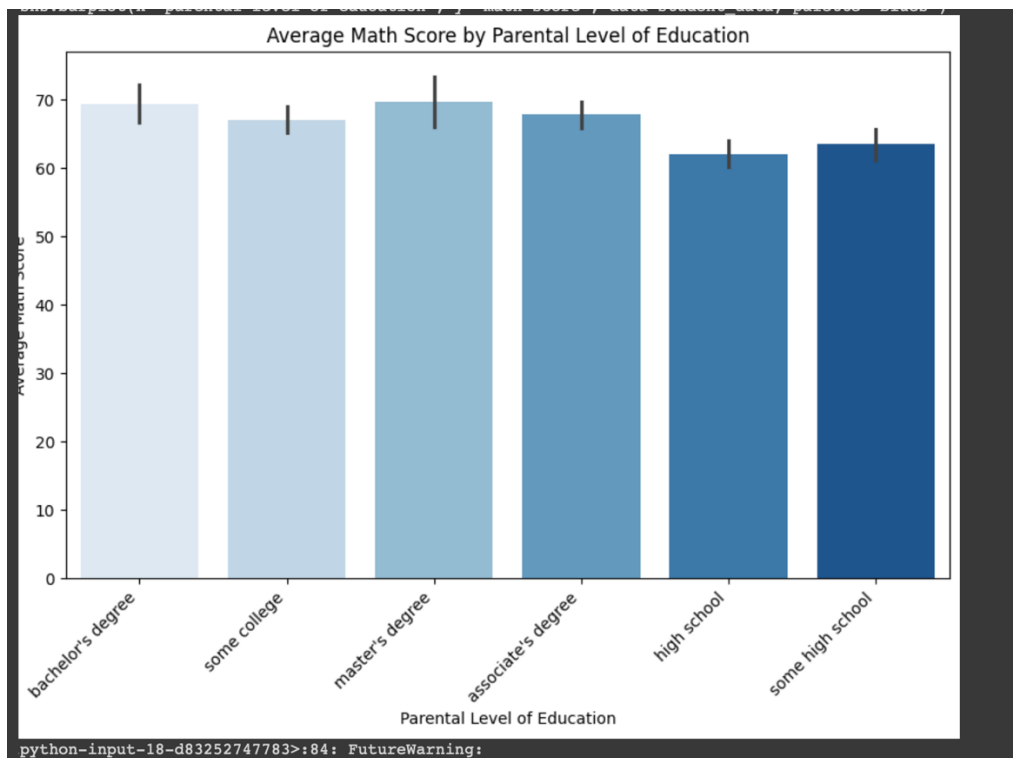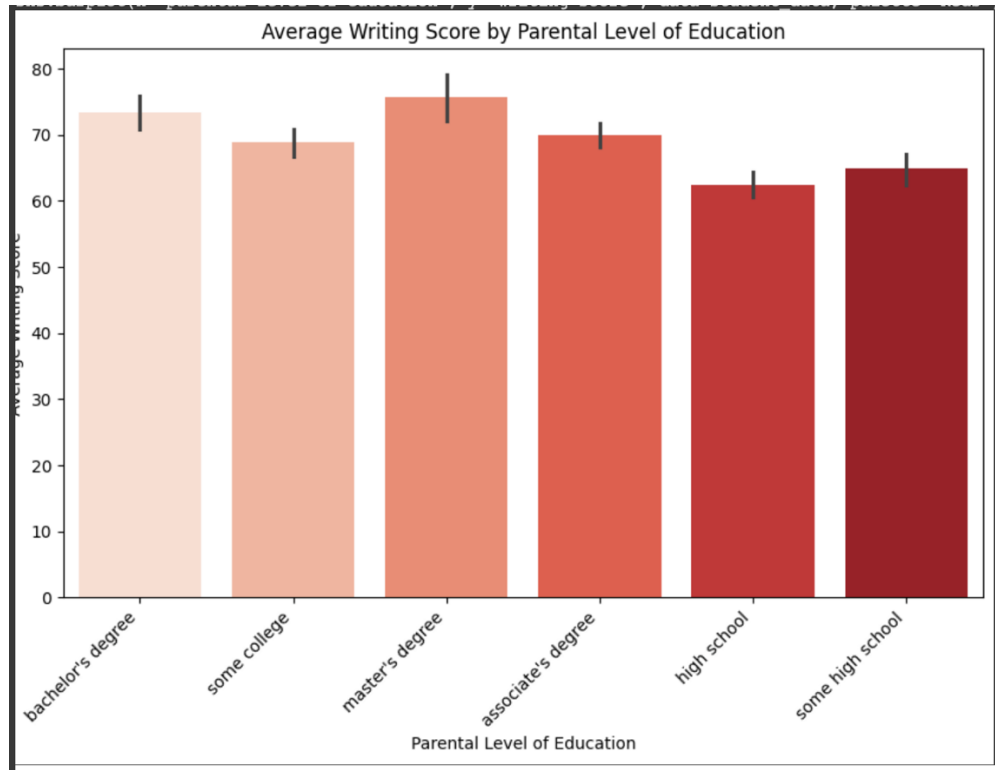
Helps compare average scores across different levels of parental education, making it easier to discern any correlation between parental education levels and student performance in each subject.

#7. PAIR PLOT

Pair Plot of Student Performance Data
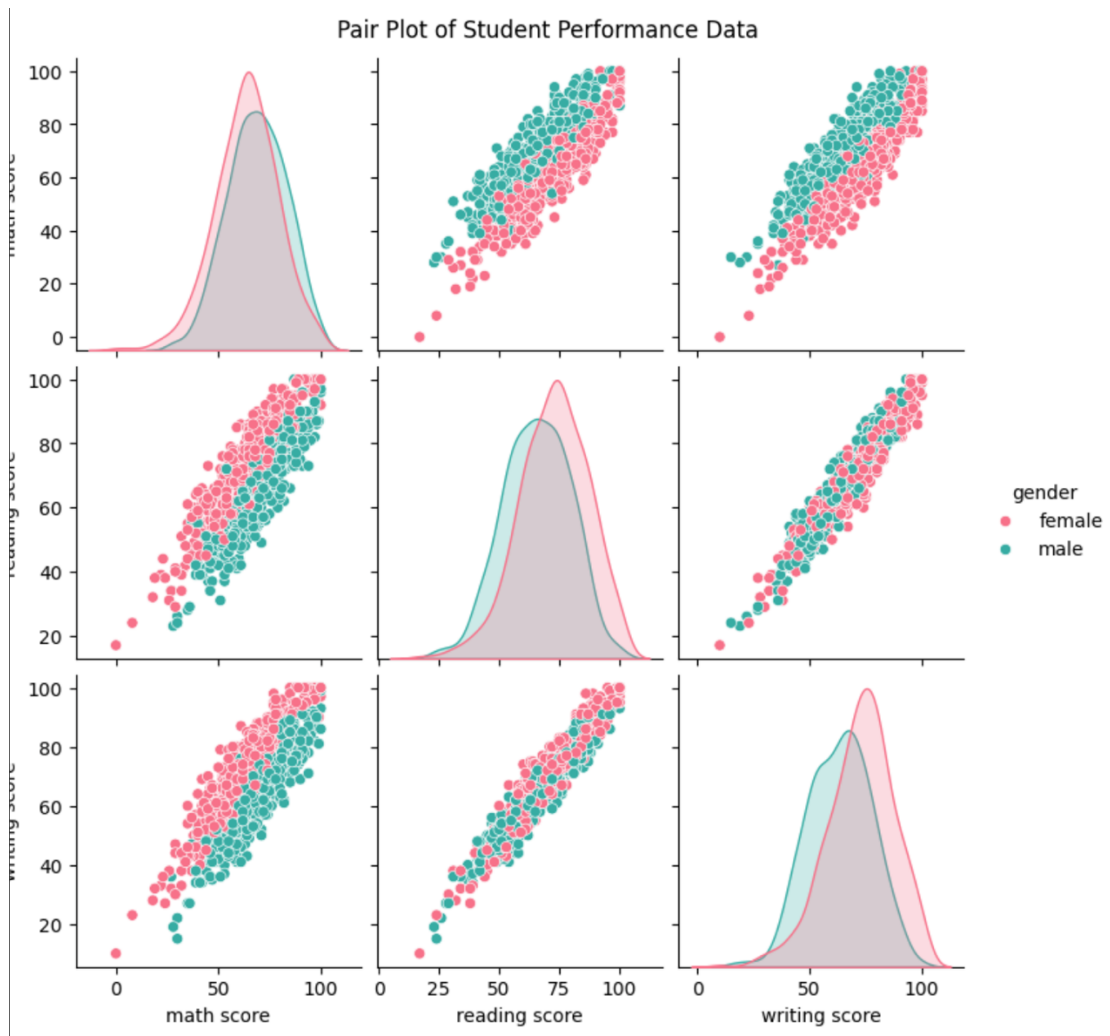
Provides a comprehensive overview of the relationships between multiple variables simultaneously, aiding in identifying potential patterns, trends, or correlations between variables such as scores in different subjects and gender.

Conclusion - The Pair Plot is the most powerful data analysis visualization due to its ability to provide a comprehensive overview of the dataset, identify patterns and correlations between multiple variables, and facilitate decision-making by visualizing relationships in a single plot.