TASK SHEET

1. Plot a 3D scatter plot showing the relationship between math, reading, and writing scores, with the marker size representing the student's overall score (average of the three scores) and color representing their test preparation completion status.
2. Create a dendrogram showing the hierarchical clustering of students based on their scores, with the color representing their parental level of education and the line style representing their lunch type.
3. Generate a violin plot for math scores grouped by lunch types and parental level of education, with the width of the violins scaled by the number of students in each group and the color representing the race/ethnicity.
4. Plot a ternary contour plot showing the density of students based on their average scores in math, reading, and writing, with different contour levels for different quartiles of student density and labels indicating the quartiles.
5. Create a radar chart comparing the average scores for each subject (math, reading, writing) across different race/ethnicity groups, with the radar area representing the proportion of students in each group and annotations showing the exact average scores.
6. Generate a network graph showing the connections between students who have similar score distributions, with node size representing the number of students, edge color representing their parental level of education, and edge thickness representing the similarity between students.
7. Plot a streamplot showing the change in scores over time for students who completed the test preparation course, with time represented by lunch type and stream thickness representing the magnitude of score change, and arrows indicating the direction of change.
8. Create a parallel coordinates plot to visualize the distribution of scores across different subjects for each student, with lines colored by their test preparation completion status and transparency representing their race/ethnicity.
9. Generate a Sankey diagram illustrating the flow of students from different parental levels of education through different race/ethnicity groups, with the width of the flow representing the number of students in each group and color representing their test preparation completion status.
10. Plot a 3D surface plot showing the relationship between math scores, reading scores, and writing scores, with the color representing the average score across the three subjects, transparency representing the proportion of students in each score combination, and annotations showing the exact average score.
11. Create a heatmap showing the correlation matrix between math, reading, and writing scores, with annotations displaying the correlation coefficients and color intensity representing the strength of correlation, and a colorbar indicating the correlation scale.
12. Generate a dendrogram showing the hierarchical clustering of students based on their scores, with the color representing their test preparation completion status and the line style representing their gender.
13. Plot a chord diagram showing the relationships between different parental levels of education based on their average scores, with the chord thickness representing the strength of the relationship, color representing the average score, and annotations showing the exact average score.
14. Create a contour plot showing the density of math scores based on reading scores, with a kernel density estimate overlaid, contour lines representing different percentile levels of score density, and color representing the race/ethnicity.
15. Generate a scatter plot matrix showing the relationships between math, reading, and writing scores, with KDE plots for each variable along the diagonal, hexagonal binning for density visualization, and annotations showing the exact average scores for each variable.