TASK SHEET

1. Plot a 3D scatter plot showing the relationship between math, reading, and writing scores, with the marker color representing the student's gender and marker shape representing their lunch type.
2. Create a dendrogram showing the hierarchical clustering of students based on their scores, with the color representing their race/ethnicity and the line thickness representing their test preparation completion status.
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 test preparation completion status.
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.
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.
6. Generate a network graph showing the connections between students who have similar score distributions, with node size representing the number of students and edge color representing their gender.
7. Plot a streamplot showing the change in scores over time for students who completed the test preparation course, with time represented by parental level of education and stream thickness representing the magnitude of score change.
8. Create a parallel coordinates plot to visualize the distribution of scores across different subjects for each student, with lines colored by their lunch type and transparency representing their test preparation completion status.
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.
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 and transparency representing the proportion of students in each score combination.
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.
12. Generate a dendrogram showing the hierarchical clustering of students based on their scores, with the color representing their lunch type and the line style representing their race/ethnicity.
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 and color representing the average score.
14. Create a contour plot showing the density of math scores based on reading scores, with a kernel density estimate overlaid and contour lines representing different percentile levels of score density.
15. Generate a scatter plot matrix showing the relationships between math, reading, and writing scores, with KDE plots for each variable along the diagonal and hexagonal binning for density visualization.