Claims:

The Importance of Cut Over Other Characteristics (The 4Cs):

- Cut has the greatest influence on a diamond's beauty and sparkle. This claim suggests that among the 4Cs (cut, color, clarity, carat), the cut of a diamond is the most crucial factor affecting its overall appearance and brilliance. **Basically, we can show whether Cut influences Price more than other variables.**

Relationship Between Cut Quality and Light Reflection:

- Ideal, Very Good, Good, and Astor by Blue Nile™ cuts are described with respect to how well they reflect light. Ideal and Astor by Blue Nile™ cuts, in particular, are noted for optimal light performance. This claim indicates a direct correlation between cut quality and the amount of light reflected, which contributes to the diamond's brilliance, fire, and scintillation.

Cut Grades and Diamond Market:

- Blue Nile does not sell "Fair" or "Poor" cut diamonds, suggesting a standard of quality that excludes the lower 35% of the market. This implies that diamonds with low cut grades appear less brilliant and smaller, affecting their aesthetic value.

Terminology Consistency in Cut Grading:

- The equivalence of the "Ideal" cut grade at Blue Nile to the "Excellent" cut grade by the Gemological Institute of America (GIA) highlights industry standards in cut grading. This claim underlines the consistency and reliability of cut grading between different entities within the diamond industry.

Anatomy of a Well-Cut Diamond:

- Descriptions of brilliance (reflection of white light), fire (dispersion of light into colors), and scintillation (play of light and dark areas) articulate the characteristics of a well-cut diamond. **Very important!**

Cut vs. Shape:

- The distinction between diamond cut (affecting light performance) and diamond shape (the outline or geometry of the diamond) clarifies two often-confused aspects of diamond characteristics. This claim emphasizes the technical difference and significance of cut in determining light performance and aesthetic appeal.

Proposals:

- We can create visualizations that explore:
    - How cut quality affects price, brilliance, and overall attractiveness.
    - Comparing diamonds across different cut grades and analyzing the price distribution for each grade
    - Perhaps attempting to quantify aspects of brilliance or scintillation (if the dataset allows, haven't looked at it yet)
    - Comparative analysis of cut quality across other characteristics
        - How does the distribution of carat, color, or clarity differ across cut grades? I.e., are higher carat diamonds more likely to have higher cut grades?
    - Interaction effects
        - How two or more factors interact and affect diamond prices. I.e., how does the impact of cut on price vary by carat size? [interaction/3D scatter plot]
    - If data on light performance available (i.e. brilliance, fire, scintillation), we could make visualizations on how these aspects are influenced by each variable. [heatmaps/bubble charts]