
Information Visualization

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time allowed: **1h30**

no document allowed except a sheet of paper with hand-written notes.

instructions:

Please answer all the questions. If there is any ambiguity in the questions, explain your hypotheses.

Question 1 (2pts)

Give one concrete exemple of data attribute for each of the following data types : nominal, ordered, and the two quantitative types (interval & ratio).

Question 2 (4pts)

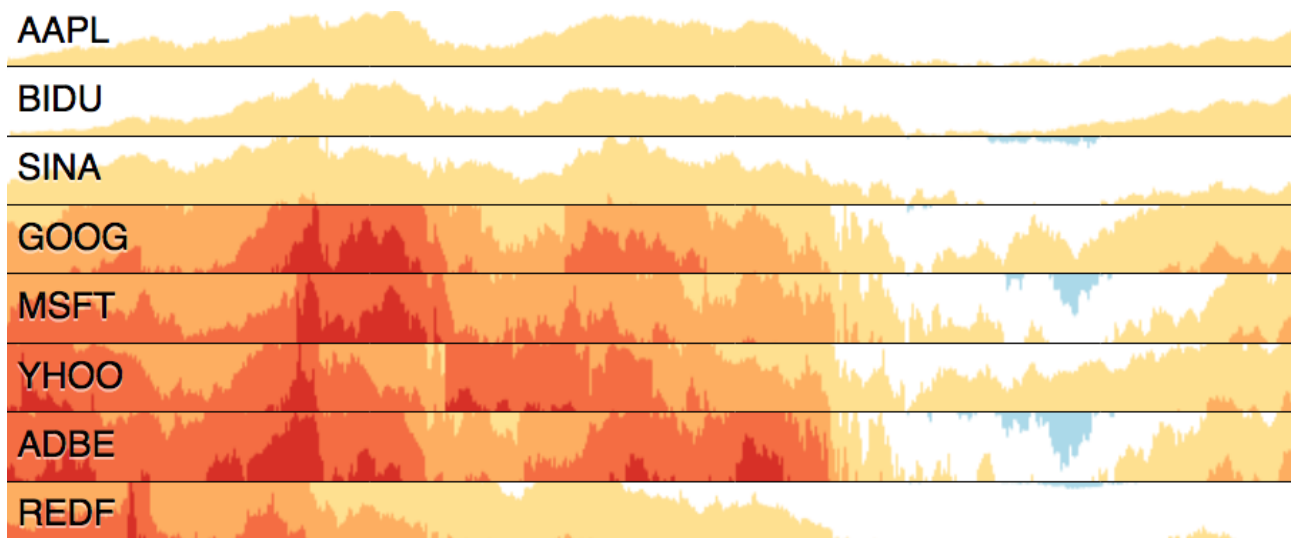
For each of those data types, explain how two values can be compared, and how several values can be aggregated.

Question 3 (4pts)

According to Bertin, the visual variables available to encode information are the position, the size, the shape, the value (from light to dark), the color (hue), the orientation and the texture (or grain). Explain the kinds of judgments that can be made when there is a change in each of those variables.

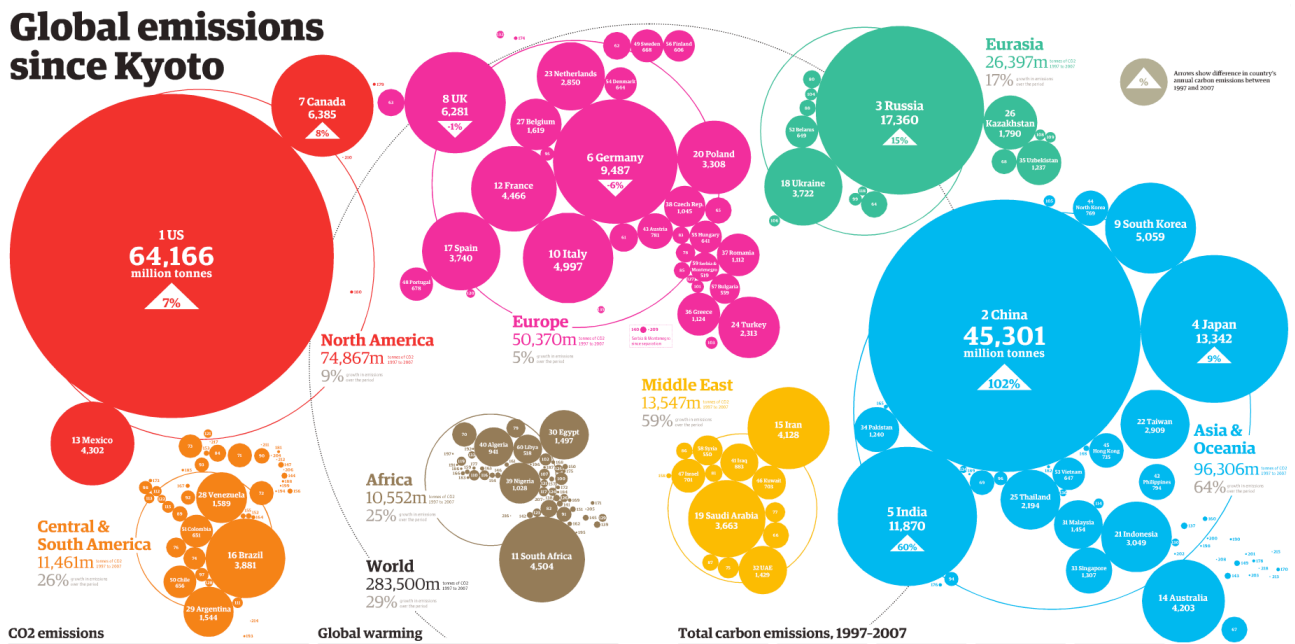
Question 4 (3pts)

The image below shows stock data time series using horizon graphs (positive values are shades of red, negative values are shades of blue). Give the visual mapping used for one horizon graph using Card et al. taxonomy.



Question 5 (3pts)

The image below show a capture of a visualization about global CO2 emissions. Give the visual mapping used in this visualization.



Question 6 (4pts)

You are given a data set with passengers of the last titanic trip as rows, and their name, sex, age, passenger's class (1st, 2nd, 3rd and crew), fare, and wether they survived or not. How would you plot this data set in your first attempt at understanding this data set (specify your visual mapping/interactions and sketch the visualization)? Justify your choices.