Information Visualization

Renaud Blanch

time allowed: **2h**
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).
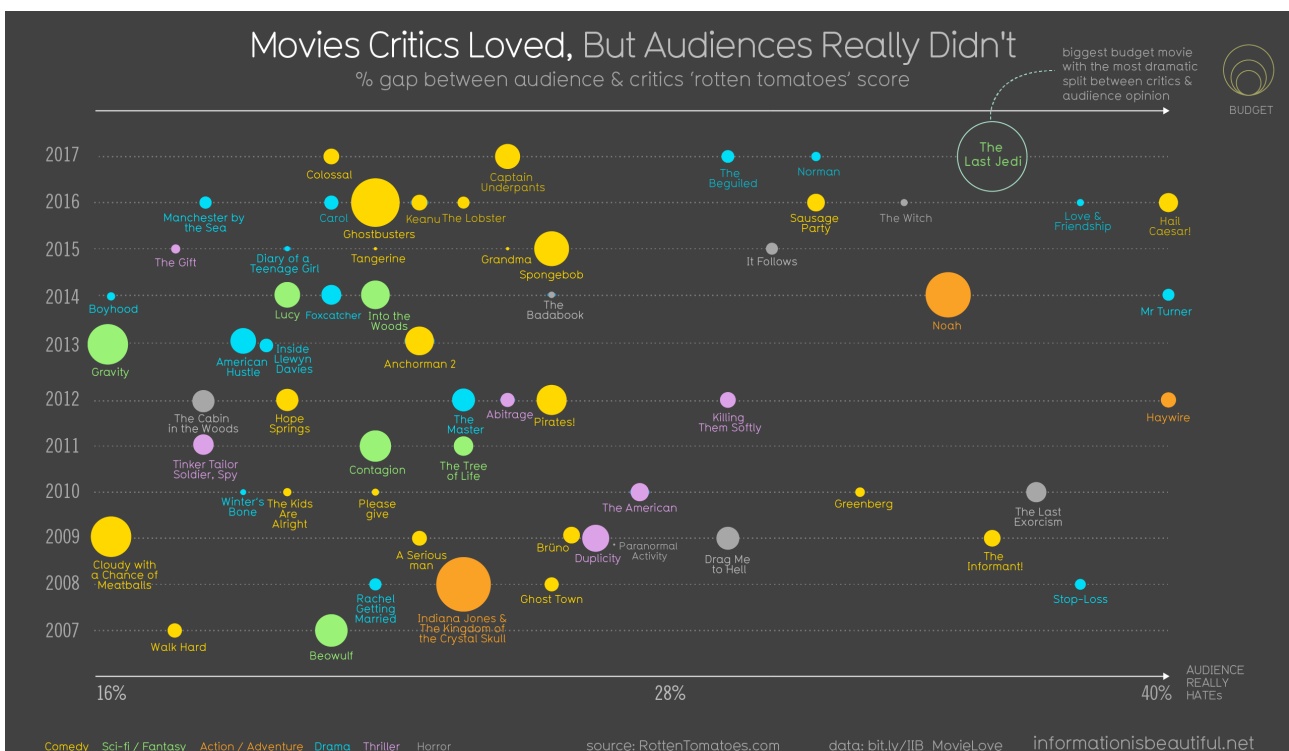
Question 2 (4pts)
For each of those data types, explain how two values can be compared, and how several values can be aggregated.

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.
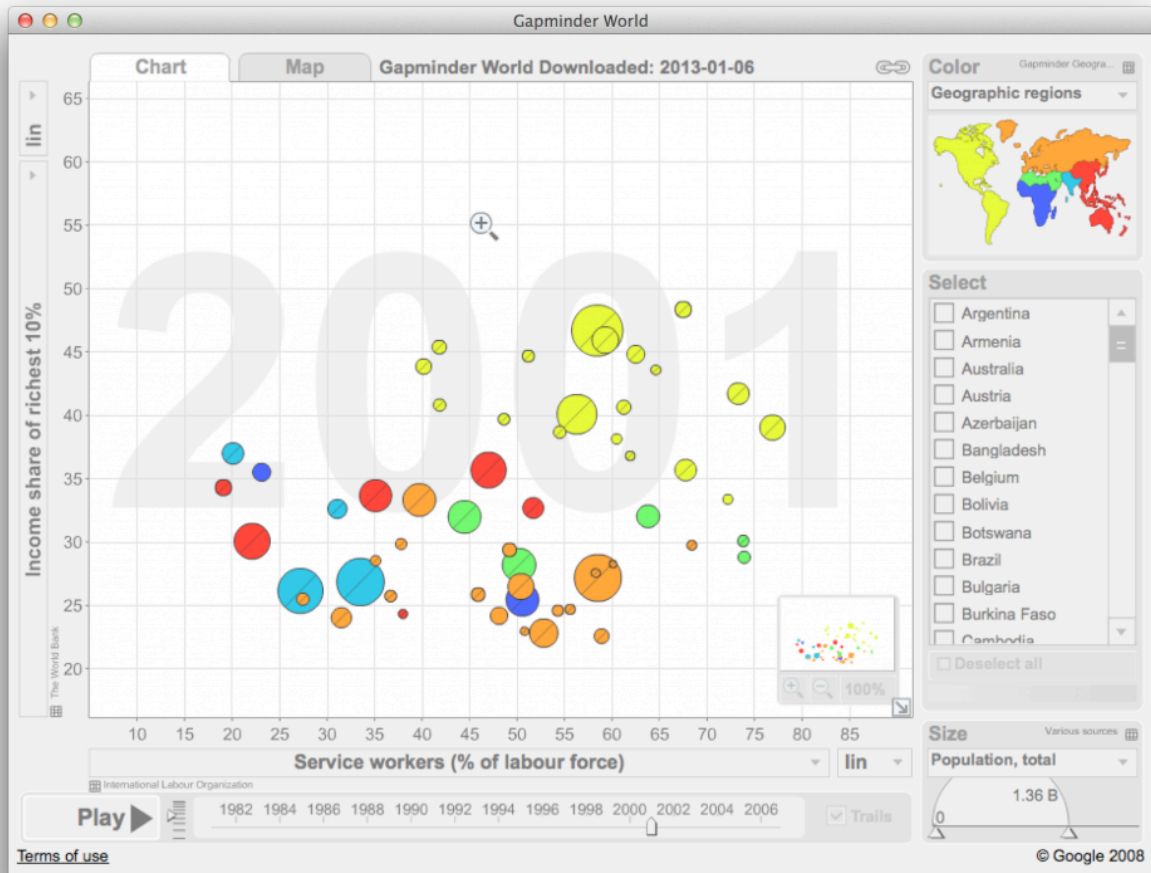
Question 4 (5pts)
The image below (from informationisbeautiful.net) shows the difference between critics and audience scores for recent movies.

a) Give the visual mapping for this chart using Card et al. taxonomy.
b) Explain why this encoding is good/bad according to Bertin's criterions.

Question 5 (5pts)
The image below is a screenshot of an offline version of Gapminder World visualisation software.

a) List the parts of the interface that relate to each item of Ben Shneiderman's information-seeking mantra.
b) List the parts of the interface that relate to each step of the Information Visualisation Pipeline.