

**Appendix A: Sorting Mechanisms for Data Facts**

Data Fact Types	Sorting Description	Sorting Algorithms	Example Data Facts Ordering
<b>Frequency</b>	Elevates the most frequent occurrences and those with exceptionally high or low frequencies within the selected data.	$W_i = D_i^{\text{norm}} + a \times R_i^{\text{norm}} + b \times \left( \frac{\text{count}_i}{\text{total count}_s} \right) - E_i^{\text{norm}}.$	60% of the selected data points are from <b>Africa</b> . 0% of the selected data points are from <b>Europe</b> . 10% of the selected data points are from <b>Asia</b> .
<b>Rank</b>	Ranks data points by their proximity to the first and last extremes, assigning higher ranks to points nearer to either end.	$\text{Rank}(i) = \min(i, n - i + 1)$	<b>Oceania</b> is ranked 1st out of 5 in <i>lifeExp</i> . <b>Africa</b> is ranked 5th out of 5 in <i>lifeExp</i> . <b>Europe</b> is ranked 2nd out of 5 in <i>lifeExp</i> .
<b>Outlier</b>	Identifies and elevates data points that deviate significantly from the average.	$Z = \frac{x - \mu}{\sigma}$	<b>Burundi</b> is an outlier in <i>GDPPerCap</i> with a Z-score of $-2.1$ . <b>Zimbabwe</b> is an outlier in <i>GDPPerCap</i> with a Z-score of $-1.9$ .
<b>Difference</b>	Highlights significant disparities between data points.	$\text{Rank}(i, j) =  D_i - D_j $	<b>Oceania (80.72)</b> 's <i>lifeExp</i> is 25.91 years higher than <b>Africa (54.81)</b> . <b>Europe (77.65)</b> 's <i>lifeExp</i> is 22.84 years higher than <b>Africa (54.81)</b> .