**What is the meaning of the five-number summary in Statistics? Give proper example**

Answer-

The five-number summary is a descriptive statistics tool used to summarize the distribution of a dataset. It consists of five values that divide the data into four equal parts. These five values include the minimum, first quartile (Q1), median (second quartile, Q2), third quartile (Q3), and maximum.

Minimum: The smallest value in the dataset.

First Quartile (Q1): The value below which 25% of the data falls. It is the median of the lower half of the dataset.

Median (Second Quartile, Q2): The middle value of the dataset when it is sorted in ascending order. It divides the data into two equal parts.

Third Quartile (Q3): The value below which 75% of the data falls. It is the median of the upper half of the dataset.

Maximum: The largest value in the dataset.

example of how to calculate the five-number summary for a dataset:

Consider the dataset:

8, 10, 12, 14, 16, 18, 20, 22, 24, 26

Minimum: 8 (smallest value)

First Quartile (Q1): 12 (median of the lower half: 8, 10, 12)

Median (Q2): 16 (middle value of the dataset)

Third Quartile (Q3): 22 (median of the upper half: 18, 20, 22, 24, 26)

Maximum: 26 (largest value)

So, the five-number summary for this dataset is: 8, 12, 16, 22, 26. The five-number summary provides a concise summary of the central tendency and spread of the data, making it useful for comparing distributions and identifying potential outliers or skewness. It is often visualized using a boxplot, which displays the five-number summary as a box with whiskers extending to the minimum and maximum values.