Quartiles, Deciles and Percentiles

Data Science and A.I. Lecture Series

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Numerical Example to Compute Quartile

Given the data set 10, 20, 30, 40, 50, 60, 70, 80, 90 and 100, calculate the first quartile, second quartile, and third quartile using the quartile formulas.

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Second quartile is denoted by Q_2 and to compute, its formula is $Q_2 = (\frac{n+1}{2})^{th}$observation, if n is odd.

Arithmetic mean of values of $(\frac{n}{2})^{th}$ and $(\frac{n}{2}+1)^{th}$ observations when n is even.

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Third quartile is denoted by Q_3 and to compute, its formula is $Q_3 = \frac{3(n+1)}{4}$.

Then $Q_3 = (\frac{3*(10+1)}{4})^{th}$ observation=8.25 = 80+0.25*(90-80)=82.50.