Median

It is refers to the middle value in a distribution.

$$\text{Median} = \frac{N+1}{2}\text{th item}$$

Computation of Median - Discreate Series

(i) Arrange the data in ascending or descending order of magnitude.

(ii) Find out the cumulative frequencies.

(iii) $N+1/2$

Calculation of Median - Continuous Series -

$$\text{Median} = L + \frac{N/2 - c.f.}{f} \times i$$

L = Lower limit of the median class.

c.f. = Sum of the frequencies of all classes lower than the median class.

f = simple frequency of the median class.

i = The class interval of the median class.

Related Positional Measures -

Computation of Quantiles, Percentiles -

While computing these values in individual and discrete series we add 1 to N whereas in continuous series we donot add 1. Thus,

$Q_1 = \frac{N+1}{4}$ th item (Individual observation and discrete series)

$Q_1 = N/4$ (in continuous series)

$Q_3 = 3(N+1)/4$ (in Individual and discrete series)

$Q_3 = 3N/4$ (in continuous series)

$D_4 = \frac{4(N+1)}{10}$ (in individual and discrete series)

$D_4 = 4N/10$ (continuous series)

$P_{60} = \frac{60(N+1)}{100}$ (Individual and discr

$P_{60} = \frac{60N}{100}$ (continuous series)