Experiment -10

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* **Aim :-** To calculate standard deviation.

* **Experiment :-** Find out the standard deviation from the following data :-

Class Interval	Frequency
0 - 10	8
10 - 20	12
20 - 30	10
30 - 40	8
40 - 50	3
50 - 60	2
60 - 70	7

* **Theory & Formula used :-**

Standard Deviation (σ) :- Standard deviation is the positive square root of the arithmetic mean of the

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squares of deviations of the given values from their arithmetic mean.

$$\sigma = \sqrt{\frac{1}{N} \Sigma f_i (x_i - \bar{x})^2}$$

Where

f = frequency
x = mid term of class interval
$\bar{x}$ = arithmetic mean
N = sum of all frequencies

* Result:-

Variance (σ^2) = 372
Standard Deviation (σ) = 19.2873