Learning by doing.

1. The following table given distribution of marks for 50 student of a class Calculate mean deviation from the mean and median respectively from the data.

Marks Obtain	140-150	150-160	160-170	170-180	180-190	190-200
frequency	4	6	10	18	9	3

Ans $MD_{\bar{x}} = 10.56$ $MD_m = 10.24$.

(2). Estimate the coefficient of mean deviation from the median from the following data.

Age group	20-30	30-40	40-50	50-60	60-70
No of workers	8	12	20	16	4

Coefficient of $MD_m = 0.19$.

Merits and Demerits of Mean Deviation.

* Merits.

(1) Simple :- It is very simple and easy measure of disporsion.

(2) Based on all Values :- Mean deviation is based on all the

items of the series. It is therefore more representative than the range or quartile deviation.

(3) Less Effect of Extreme Values :→
Mean deviation is less affected by extreme values than the range.

Demerits

(1) Inaccuracy :→
Calculation of mean deviation suffers from inaccuracy because the '+' or − signs are ignored.

(2) Not Capable of Algebraic Treatment :→ Mean deviation is not capable of any further algebraic treatment.

3. Unreliable :→
In case deviations are taken from mode and mode being uncertain, mean deviation also becomes uncertain and therefore, unreliable.