Q.D. = $\frac{Q_3-Q_1}{2}$ and coefficient of Q.D. = $\frac{Q_3-Q_1}{Q_3+Q_1}$.

The variability of the items will be greater or less according as the value of the coefficient of Q.D. is greater or less.

(i) Range is not based on all items where Q.D. is based on all items.

(ii) Range is effected by extreme values where as Q.D. is not effected.

(iii) Range cannot be calculated in open – end classes but Q.D. can be calculated even if classes are open – ended.

(iv) Q.D. is better measure of dispersion in comparison to range because as it is based on 50% of the central items.

2.

Soln:

Mean deviation is defined as the arthimetic mean of the derivations of the items from mean, median or mode, when all the derivatives are considered positive.

M.D. from mean = $\frac{\sum| x-\overline{x}|}{n}$ = $\frac{\sum|d|}{n}$ (for individual series).

M.D. from mean = $\frac{\sum^f |x-\overline{x}|}{N}$ = $\frac{\sum^f |d|}{N}$ (for discrete and cont. series).

Standard deviation id defined as the positive square root of the arithmetic mean of the square of the deviations of the given items from their arthimetic mean.

S.D.(σ) = $\sqrt{\frac{\sum^{(x-\bar{x})^2}}{n}}$ = $\sqrt{\sum\frac{x^2}{n}-\left(\sum\frac{x}{n}\right)^2}$ (for individual series).

S.D.(σ) = $\sqrt{\frac{\sum^f (x-\bar{x})^2}{n}}$ = $\sqrt{\frac{\sum^f x^2}{N}-\left(\frac{\sum^{fx}}{N}\right)^2}$ (For discrete and cont.series).

Mean deviation	Standard deviation,
It may be computed from either mean, median or mode. M.D. ignores algebraic signs, It satisfies less characteristics of ideal dispersion. It is not more applied for further mathematical study.	It is always computed from arithmetic mean. S.D. does not ignore algebraic sign. S.D. satisfies almost all characteristics of ideal dispersion. It is widely used in further mathematical study.

Standard deviation is considered the measure o dispersion better because:

(i) It is rigidly defined.

(ii) It is based on all items.

(iii) It is not effected by extreme values.

(iv) It is simple to understand and easy to compute.

(v) It is suitable for further mathematical study.

3.

Soln:

The relative measure of dispersion based on the standard deviation is known as the coefficient of standard deviation. The coefficient of dispersion based on the standard deviation multiplied by 100 is known as the coefficient variation (C.V.), which is written as:

C.V. = $\frac{S.D.}{mean}$ * 100%.

Two distributions can bitterly be compared with the help of C.V. for their variability. Less the C.V. more will be the uniformity, consistency, homogeneity, etc. But, more the C.V., will be the more variability, dispersed, etc.

4.

a.

Soln:

L = Largest item = 76.

S = Smallest item = 14.

So, Range = L – S = 76 – 14 = 62.

Coefficient of range = $\frac{L-S}{L+S}$ = $\frac{76-14}{76+14}$ = $\frac{62}{90}$ = 0.69.

b.

Soln:

L = Largest item = 280.

S = Smallest item = 80.

So, Range = L – S = 280 – 80 = 200.

Coefficient of range = $\frac{L-S}{L+S}$ = $\frac{280-80}{280+80}$ = 0.55.

5.

Soln:

Let us arrange the given series in ascending order according to their height.

Height(in cms)	156	158	161	162	164	164	165
Weight in(kgs)	51	53	56	57	50	65	70

Here, n = 7.

For height, Q_1= Values of $\left(\frac{n+1}{4}\right)^{th}$ item = Value of $\left(\frac{7+1}{4}\right)^{th}$ item.

= Value of 2^{nd} item = 158.

Q_3 = Value of $3\left(\frac{n+1}{4}\right)^{th}$ item = Value of 6^{th} item = 164.

So, coefficients of Q.D. = $\frac{Q_3-Q_1}{Q_3+Q_1}$ = $\frac{164-158}{164+158}$ = $\frac{6}{332}$ = 0.019.

For weight.

Q_1 = Value of $\left(\frac{n+1}{4}\right)^{th}$ item = Value of 2^{nd} item = 53.

Q_3 = Value of 3 $\left(\frac{n+1}{4}\right)^{th}$ item = Value of 6^{th} item = 65.

So, coefficient of Q.D. = $\frac{Q_3-Q_1}{Q_3+Q_1}$ = $\frac{65-53}{65+53}$ = $\frac{12}{118}$ = 0.0102.

Here, the coefficient of Q.D. for height < coefficient of Q.D. for weight,

So, weight is more variable than height.

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6.

a.

Soln:

Calculation of Quartile Deviation.

Wages	Frequency	c.f.
30	9	9
40	20	29
50	32	61
60	16	76
70	6	82

Here, $\frac{N+1}{4}$ = $\frac{82+1}{4}$ = 20.75

And $\frac{3(N+1)}{4}$ = 3 * 20.75 = 62.25.

So, Q_1 = Size of $(20.75)^{th}$item = 40.

Q_3 = Size of $(62.25)^{th}$item = 60.

So, Q.D. = $\frac{Q_3-Q_1}{2}$ = $\frac{60-40}{2}$ = 10.

Coefficeint of Q.D. = $\frac{Q_3-Q_1}{Q_3+Q_1}$ = $\frac{60-40}{60+40}$ = 0.2.

b.

Soln:

Calculation of Quartile Deviation.

Wages	Frequency	c.f.
20	18	18
22	14	32
24	15	47
26	16	63
28	5	68
30	2	70
	N = 70.	

Here, $\frac{N+1}{4}$ = $\frac{70+1}{4}$ = 17.75.

And $\frac{3(N+1)}{4}$ = 3 * 17.75 = 53.25

So, Q_1 = Size of $(17.75)^{th}$item = 20.

Q_3 = Size of $(53.25)^{th}$item = 26.

So, Q.D. = $\frac{Q_3-Q_1}{2}$ = $\frac{26-20}{2}$ = 3mm.

Coefficeint of Q.D. = $\frac{Q_3-Q_1}{Q_3+Q_1}$ = $\frac{26-20}{26+20}$ = 0.13.

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7.

a.

Soln:

Calculation of Q.D.

Volume of water	Frequency	c.f.
10 – 12	4	4
20 – 30	12	16
30 – 40	16	32
40 – 50	6	38
50 – 60	2	40
	N = 40.	

Here, N = 40, $\frac{N}{4}$ = $\frac{40}{4}$ = 10.

So, Q_1 lies in the class 20 – 30.

Here, l = 20, $\frac{N}{4}$ = 10, c.f. = 4,f = 12, h = 10.

So, Q_1 = l + $\frac{\frac{N}{4}-c.f.}{f}$ * h = 20 + $\frac{10-4}{12}$ * 10 = 20 + 5 = 25.

Again, $\frac{3N}{4}$ = $\frac{3}{4}$ * 40 = 30,

So, Q_3 lies in the class (30 – 40).

So, l = 30, $\frac{3N}{4}$ = 30, c.f. = 16,f = 16, h = 10.

So, Q_3 = l + $\frac{\frac{3N}{4}-c.f.}{f}$ * h = 30 + $\frac{30-16}{16}$ * 10 = 38.75.

So, Q.D. = $\frac{Q_3-Q_1}{2}$ = $\frac{13.75}{2}$ = 6.875.

So, coefficient of Q.D. = $\frac{Q_3-Q_1}{Q_3+Q_1}$ = $\frac{38.75-25}{38.75+25}$ = $\frac{13.75}{63.75}$ = 0.216.

b.

Soln:

Calculation of Q.D.

Marks	Frequency	c.f.
20 – 30	3	3
30 – 40	5	8
40 – 50	6	14
50 – 60	8	22
60 – 70	4	26
70 – 80	4	30
	N = 30.	

Here, N = 30, $\frac{N}{4}$ = $\frac{30}{4}$ = 7.5.

So, Q_1 lies in the class 30 – 40.

Here, l = 30, $\frac{N}{4}$ = 7.5, c.f. = 3,f = 5, h = 10.

So, Q_1 = l + $\frac{\frac{N}{4}-c.f.}{f}$ * h = 30 + $\frac{75-3}{5}$ * 10 = 39.

Again, $\frac{3N}{4}$ = $3*7.5$ = 22.5/

So, Q_3 lies in the class (60 – 70).

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So, l = 60, $\frac{3N}{4}$ = 22.5, c.f. = 22,f = 4, h = 10.

So, Q_3 = l + $\frac{\frac{3N}{4}-c.f.}{f}$ * h = 60 + $\frac{22.5-22}{4}$ * 10 = 60 + 1.25 = 61.25

So, Q.D. = $\frac{Q_3-Q_1}{2}$ = $\frac{61.25-39}{2}$ = 11.125.

So, coefficient of Q.D. = $\frac{Q_3-Q_1}{Q_3+Q_1}$ = $\frac{61.25-39}{61.25+39}$ = 0.22.

8.

a.

Soln:

Calculation of the Mean deviation,

x	x - $\bar{x}$	|x - $\bar{x}$|
5 6 8 9 12	-3 -2 0 1 4	3 2 0 1 4
$\sum x$ = 40		$\sum \lvert x - \overline{x} \rvert$ = 10

Here, n = 5, $\sum x$ = 40,

So, $\bar{x}$ = $\frac{\sum x}{n}$ = $\frac{40}{5}$ = 8.

Again, M.D. = $\frac{\sum \lvert x-\overline{x}\rvert}{n}$ = $\frac{10}{5}$ = 2.

b.

Soln:

x	$\lvert x - \overline{\overline{x}} \rvert$ = |x – 54|
40 44 54 60 64 62	14 10 0 6 10 8
$\sum x$ = 324.	$\sum \lvert x - \bar{x} \rvert = 48$

Here,

n = 6,

So, $\bar{x}$ = $\frac{\sum x}{n}$ = $\frac{324}{6}$ = 54.

Again, M.D. = $\frac{\sum \lvert x-\overline{x}\rvert}{n}$ = $\frac{48}{6}$ = Rs.8

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9.

a.

Soln:

Calculation of M.D. from mean,

Height (x)	Frequency(f)	fx	$\lvert x - \bar{x} \rvert$	$f\lvert x - \bar{x} \rvert$
10	5	50	9	45
15	4	60	4	16
20	4	80	1	4
25	4	100	6	24
30	3	90	11	33
$\sum^{x} = 100$	N = 20.	$\sum^{fx}$ = 380		$\sum^{f} \lvert x - \bar{x} \rvert$ = 122.

Here, $\bar{x}$ = $\frac{\sum^{fx}}{N}$ = $\frac{380}{20}$ = 19.

M.D. from mean = $\frac{\sum^{f} \lvert x - \overline{x} \rvert}{N}$ = $\frac{122}{20}$ = 6.cm.

b.

Soln:

Calculation of M.D. from mean,

Height (x)	Frequency(f)	c.f.	$\lvert x - m_d \rvert$	$f\lvert x - m_d \rvert$
50	15	15	10	150
55	20	35	5	100
60	25	60	0	0
65	30	90	5	150
70	10	100	10	100
	N = 100.			$\sum^{f} \lvert x - M_d \rvert$ = 500.

Here, N = 100,

So, $\frac{N+1}{2}$ = $\frac{100+1}{2}$ = 50.5.

Here, median(M_d) = 60,

M.D. from mean = $\frac{\sum^{f} \lvert x - M_d}{N}$ = $\frac{500}{100}$ = 5.

10.

Soln:

Calculation Of M.D. from mean.

Marks	Frequency(f)	fx	$\lvert x - \bar{x} \rvert$	$f\lvert x - \bar{x} \rvert$
0 – 10	5	25	22	110
10 – 20	8	120	12	96
20 – 30	15	375	2	30
30 – 40	16	560	8	128
40 – 50	6	270	18	108
	N = 50.	$\sum^{fx}$ = 1350		$\sum^{f} \lvert x - \bar{x} \rvert$ = 472.

Mean, $\bar{x}$ = $\frac{\sum^{fx}}{N}$ = $\frac{1350}{50}$ = 27.

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M.D. from mean = $\frac{\sum^{f}(x-\overline{x})}{N}$ = $\frac{472}{50}$ = 9.44/

Coefficient of M.D. from mean = $\frac{\text{M.D.from mean}}{\text{Mean}}$ = $\frac{9.44}{27}$ = 0.35.

11.

Soln:

Calculation of Mean deviation.

Production	x	f	fx	$\lvert x - \bar{x}\rvert$	$f\lvert x - \bar{x}\rvert$	c.f.	$\lvert x - M_d\rvert$	$f\lvert x - M_d\rvert$
0 – 10	5	6	30	19	114	6	20	120
10 – 20	15	4	60	9	36	10	10	40
20 – 30	25	10	250	1	10	20	0	0
30 – 40	35	7	245	11	77	27	10	70
40 – 50	45	3	135	21	63	30	20	60

Mean, $\bar{x}$ = $\frac{\sum^{fx}}{N}$ = $\frac{720}{30}$ = 24.

Mean deviation from mean =$\frac{\sum^{f}\lvert x-\overline{x}\rvert}{N}$ = $\frac{300}{N}$ = 10

Here, $\frac{N}{2}$ = $\frac{30}{2}$ = 15.

So, median lies in the class interval (20 – 30).

Here, l = 20, $\frac{N}{2}$ = 15, c.f. = 10, f = 10,h = 10.

Median (M_d) = l + $\left(\frac{\frac{N}{2}-c.f}{f}\right)$ * h = 20 + $\frac{15-10}{10}$ * 10 = 20 + 5 = 25.

Mean deviation from median = $\frac{\sum^{f}\lvert x-M_d\rvert}{N}$ = $\frac{290}{30}$ = 9.66

Coefficient of M.D. from mean = $\frac{\text{M.D.from mean}}{\text{Mean}}$ = $\frac{10}{24}$ = 0.24.

Coefficient of M.D. from median = $\frac{\text{M.D.from median}}{\text{Median}}$ = $\frac{9.66}{25}$ = 0.39.

12.

a.

Soln:

Calculation of S.D.

x	x - $\bar{x}$	$(x - \bar{x})^2$
20	-11	121
25	-6	36
30	-1	1
32	1	1
36	5	25
43	12	144
$\sum^{x}$ = 186		$\sum^{(x-\bar{x})^2}$ = 328

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We have, , $\bar{x} = \frac{\sum fx}{N} = \frac{186}{6}$ = 31.

Again, S.D.(σ) = $\sqrt{\frac{\sum (x-\bar{x})^2}{n}} = \sqrt{\frac{328}{6}} = \sqrt{54.67}$ = 7.39.

b.

Soln:

Calculation of S.D.

x	x - $\bar{x}$	(x - $\bar{x}$)^2
160	-100	10,000
180	-80	6,400
240	-20	400
260	0	0
320	60	3,600
400	140	19,600
$\sum x$ = 1,560		$\sum (x-\bar{x})^2$ = 40,000

We have, , $\bar{x} = \frac{\sum x}{N} = \frac{1,560}{6}$ = 260.

Again, S.D.(σ) = $\sqrt{\frac{\sum (x-\bar{x})^2}{n}} = \sqrt{\frac{40,000}{6}} = \sqrt{6666.67}$ = Rs.18.65.

13.

a.

Calculation of S.D.

Bonus(x)	Frequency(f)	fx	x - $\bar{x}$	(x - $\bar{x}$)^2	f(x - $\bar{x}$)^2
5	12	60	-7	49	588
10	20	200	-2	4	80
15	8	120	3	9	72
20	6	120	8	64	384
25	4	100	13	169	676
	N = 50	$\sum fx$ = 600			$\sum f\left(x-\bar{x}\right)^2$=1,800

We have, Mean($\bar{x}$)= $\frac{\sum fx}{N} = \frac{600}{50}$ = 12.

Again, S.D.(σ) = $\sqrt{\frac{\sum f\,(x-\bar{x})^2}{n}} = \sqrt{\frac{1800}{50}} = \sqrt{36}$ = 6.

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b.

Calculation of S.D.

Bonus(x)	Frequency(f)	fx	x - $\bar{x}$	$(x - \bar{x})^2$	$f(x - \bar{x})^2$
10	8	80	- 18.6	345.96	2767.68
20	12	240	-8.6	73.96	887.52
30	15	450	1.4	1.96	29.4
40	9	360	11.4	129.96	1169.64
50	6	300	21.4	457.96	2747.76
	N = $\sum^{f}$ = 50	$\sum^{fx}$ = 1430			$\sum^{f}(x-\bar{x})^2$=7602.

We have, Mean($\bar{x}$)= $\frac{\sum^{fx}}{N}$ = $\frac{1430}{50}$ = 28.6

Again, S.D.(σ) = $\sqrt{\frac{\sum^{f}(x-\bar{x})^2}{n}}$ = $\sqrt{\frac{7602}{50}}$ = $\sqrt{152.04}$ = 12.23.

14.

a.

Soln:

Calculation of S.D.

Age	F	Mid-value(x)	fx	x - $\bar{x}$	$(x - \bar{x})^2$	$f(x - \bar{x})^2$
2 – 4	6	3	18	-2.5	6.25	37.5
4 – 6	5	5	25	-0.5	0.25	1.25
6 – 8	7	7	49	1.5	2.25	15.75
8 – 10	2	9	18	3.5	12.25	24.5
	N = $\sum^{f}$ = 20		$\sum^{fx}$ = 110			$\sum^{f}(x-\bar{x})^2$= 79.

So, Mean $(\bar{x})$ = $\frac{\sum^{fx}}{N}$ = $\frac{110}{20}$ = 5.5.

Again, S.D. (σ) = $\sqrt{\frac{\sum^{f}(x-\bar{x})^2}{N}}$ = $\sqrt{\frac{79}{20}}$ = $\sqrt{3.95}$ = 1.99

b.

Soln:

Calculation of S.D.

Income	F	x	fx	x - $\bar{x}$	$(x - \bar{x})^2$	$f(x - \bar{x})^2$
300 – 400	8	350	2800	-172	29584	236672
400 – 500	12	450	5400	-72	5184	62208
500 – 600	20	550	11000	28	784	15680
600 – 700	6	650	3900	128	16384	98304
700 – 800	4	750	3000	228	51984	207936
	N = $\sum^{f}$ = 50		$\sum^{fx}$ = 26100			$\sum^{f}(x-\bar{x})^2$= 620800.

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So, Mean $(\bar{x})$ = $\frac{\sum fx}{N}$ = $\frac{26100}{50}$ = Rs.522.

Again, S.D. (σ) = $\sqrt{\frac{\sum f\,(x-\bar{x})^2}{N}}$ = $\sqrt{\frac{620800}{50}}$ = $\sqrt{12416}$ = Rs. 111.43

Coefficient of variation (C.V.) = $\frac{\sigma}{x}$ * 100% = $\frac{111.43}{522}$ * 100% = 21.35%.

c.

Soln:

Calculation of S.D.

Income	f	x	fx	x - $\bar{x}$	(x - $\bar{x}$)^2	f(x - $\bar{x}$)^2
0 – 10	8	5	40	-17.8	316.84	2534.72
10 – 20	13	15	195	-7.8	60.84	790.92
20 – 30	16	25	400	2.2	4.84	77.44
30 – 40	8	35	280	12.2	148.84	1190.72
40 – 50	5	45	225	22.5	492.84	2464.2
	N = $\sum f$ = 50		$\sum fx$ = 1140			$\sum f\,(x-\bar{x})^2$ = 7058.

So, Mean $(\bar{x})$ = $\frac{\sum fx}{N}$ = $\frac{1140}{50}$ = Rs.22.8

Again, S.D. (σ) = $\sqrt{\frac{\sum f\,(x-\bar{x})^2}{N}}$ = $\sqrt{\frac{7083}{50}}$ = $\sqrt{141.16}$ = Rs. 11.88

Coefficient of variation (C.V.) = $\frac{\sigma}{x}$ * 100% = $\frac{11.88}{22.8}$ * 100% = 52.1%.

15.

a.

Soln:

For student A,

Or, $\bar{x}$ = 84, σ^2 = 16.

So, σ = 4.

So, C.V. = $\frac{\sigma}{\bar{x}}$ * 100% = $\frac{4}{84}$ * 100% = 4.76%.

For student B,

Or, $\bar{x}$ = 92, σ^2 = 25.

So, σ = 5.

So, C.V. = $\frac{\sigma}{\bar{x}}$ * 100% = $\frac{5}{92}$ * 100% = 5.43%.

Here, C.V. of the student (A) < C.V. of student (B).

So, A has got the uniform mark.

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b.

Soln:

For firm A,

n = 25, $\bar{x}$ = 6400, σ = 4.5

C.V. = = $\frac{\sigma}{\bar{x}}$ * 100% = $\frac{4.5}{6400}$ * 100% = 0.070%.

For firm B,

n = 15, $\bar{x}$ = 7500, σ = 54

C.V. = = $\frac{\sigma}{\bar{x}}$ * 100% = $\frac{5.4}{7500}$ * 100% = 0.072%.

Here, C.v. of firm B Is grater than C.V. of form A.

So, the distribution of wages in firm B has greater variability than firm A.

Now, combined mean $\left(\bar{x}_{12}\right)$ = $\frac{n_1.\bar{x}_1+n_2\bar{x}_2}{n_1+n_2}$ = $\frac{25*6400+15*7500}{25+15}$ = $\frac{272500}{40}$ = 6812.5

16.

Soln:

Arranging the marks of X and Y in ascending order.

x(X)	d = x – 64	d^2	x(Y)	d = y – 63	y + d^2
48	-16	256	45	-18	324
56	-8	64	57	-6	36
64	0	0	63	0	0
69	5	25	63	0	0
72	8	64	74	11	121
81	17	289	82	19	361
	$\sum^d$ = 6	$\sum^{d^2}$ = 689		$\sum^d$ = 6	$\sum^{d^2}$ = 842.

For student X,

Or, $\bar{x}$ = a + $\frac{\sum^d}{n}$ = 64 + $\frac{6}{6}$ = 65.

S.D.(σ) = $\sqrt{\frac{\sum^{d^2}}{n} - \left(\frac{\sum^d}{n}\right)^2}$ = $\sqrt{\frac{689}{6} - \left(\frac{6}{6}\right)^2}$

= $\sqrt{116.33 - 1}$ = $\sqrt{115.33}$ = 10.74

For student Y,

Or, $\bar{x}$ = a + $\frac{\sum^d}{n}$ = 63 + $\frac{6}{6}$ = 64.

S.D.(σ) = $\sqrt{\frac{\sum^{d^2}}{n} - \left(\frac{\sum^d}{n}\right)^2}$ = $\sqrt{\frac{842}{6} - \left(\frac{6}{6}\right)^2}$

= $\sqrt{139.33}$ = 11.8.

So, C.V. (X) = $\frac{\sigma}{\bar{x}}$ * 100 % = $\frac{10.74}{65}$ * 100% = 16.52%.

So, C.V. (Y) = $\frac{\sigma}{\bar{x}}$ * 100 % = $\frac{11.80}{64}$ * 100 % = 18.42%.

Here, C.V.(X) < C.V.(Y).

So, X should get the prize.

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17.

Soln:

Length of life	x	d = x – a	d^2	For A(f)	fd	fd^2	For B(f)	fd	fd^2
400 – 500	450	-100	10000	8	-800	80000	6	-600	60000
500 – 600	550	0	0	20	0	0	24	0	0
600 – 700	650	100	10000	16	1600	160000	12	1200	120000
700 – 800	750	200	40000	6	1200	240000	8	1600	320000
				N = $\sum^{f}$ = 50	$\sum^{fd}$ =20000	$\sum^{f} d^2$ =400000	N = $\sum^{f}$ = 50	$\sum^{fd}$ =2200	$\sum^{f} d^2$ =500000

Now,

For supplier A,

Or, $\bar{x}$ = a + $\frac{\sum^{fd}}{N}$ = 550 + $\frac{2000}{50}$ = 590.

σ(A) = $\sqrt{\frac{\sum^{f} d^2}{N} - \left(\frac{\sum^{fd}}{N}\right)^2}$ = $\sqrt{\frac{400000}{50} - \left(\frac{2000}{50}\right)^2}$.

= $\sqrt{8000 - 1600}$ = 80.

So, C.V. (A) = $\frac{\sigma}{\bar{x}}$ * 100% = $\frac{80}{590}$ * 100% = 15.56%.

For supplier B,

Or, $\bar{y}$ = a + $\frac{\sum^{fd}}{N}$ = 550 + $\frac{2200}{50}$ = 594.

σ(B) = $\sqrt{\frac{\sum^{f} d^2}{N} - \left(\frac{\sum^{fd}}{N}\right)^2}$ = $\sqrt{\frac{500000}{50} - \left(\frac{2200}{50}\right)^2}$.

= $\sqrt{10000 - 1936}$ = $\sqrt{8064}$ = 89.8.

So, C.V. (B) = $\frac{\sigma}{\bar{x}}$ * 100% = $\frac{89.8}{594}$ * 100% = 15.11%.

Here, C.V. (A) < C.V. (B)

So, supplier B shows greater variability in the lengths of life.

Previous (differential-equations/solution/grade-12/mathematics/184/solutions)

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