

Name: Aniegboka Victor Uwaro

Department: Computer Science

Matric Number: 19/sci01/020

Assignment

Group A

Class interval	Frequency	$x$	$fx$	$ x-x $	$ x-x $	$f x-x ^2$
1-5	0	3	0	14.83	219.9289	0
6-10	7	8	56	9.83	98.6289	676.023
11-15	10	13	130	4.83	23.3289	233.2890
16-20	2	18	36	0.17	0.0289	0.0578
21-25	1	23	23	5.17	26.7289	26.7289
26-30	5	28	140	10.17	103.4289	517.1445
31-35	4	33	132	15.17	230.1289	920.5156
	$\Sigma f=29$		$\Sigma fx=517$			2374.1381

$$\text{Mean}(x) = \Sigma fx / \Sigma f$$

$$= 517 / 29 = 17.83$$

$$\text{Variance} = \Sigma f|x-x|^2 / \Sigma f = 2374.1381 / 29 = 81.867$$

$$\text{Standard deviation} = \sqrt{\text{variance}} = \sqrt{81.867} = 9.048$$

$$\text{Coefficient of variation} = \text{Standard deviation} / \text{mean} \times 100\%$$

$$9.048 / 17.83 \times 100\%$$

$$50.75\%$$

Group B

Class interval	Frequency	$x$	$fx$	$ x-x $	$ x-x ^2$	$f x-x ^2$
1-5	2	3	6	17.14	293.7796	587.5592
6-10	4	8	32	12.14	147.3796	589.5184
11-15	7	13	91	7.14	50.9796	356.8572
16-20	20	18	360	2.14	4.5796	91.5920
21-25	16	23	368	2.86	8.1796	130.8736
26-30	10	28	280	7.86	61.7796	617.796
31-35	4	33	132	12.86	165.3796	661.5184
	$\Sigma f=63$		1269			3035.7148

$$\text{Mean} = \Sigma fx / \Sigma f$$

$$= 1269 / 63 = 20.14$$

$$\begin{aligned}\text{Variance} &= \sum f / x - x / ^2 / \sum f \\ &= 3035.7148 / 63 = 48.186\end{aligned}$$

$$\text{Standard deviation} = \sqrt{\text{variance}} = \sqrt{48.168} = 6.942$$

$$\text{Coefficient of variation} = \text{S.D} / \text{Mean} \times 100\%$$

$$= 6.942 / 20.14 \times 100\%$$

$$= 34.47\%$$

The group which has less variable distribution is the group b.