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STAT 132 Group A

	F	Class boundary	x	$F(x)$	$(x-\bar{x})A$	$F(x-\bar{x})A$
0-5	0	0-5-5.5	3	0	-14.83	
6-10	7	5.5-10.5	8	50	-9.83	676.41
11-15	10	10.5-15.5	13	130	-4.83	233.89
16-20	12	15.5-20.5	18	36	0.17	0.06
21-25	1	20.5-25.5	23	23	5.17	26.73
26-30	5	25.5-30.5	28	140	10.17	517.15
31-35	4	30.5-35.5	33	132	15.17	920.52
	$\Sigma f = 39$			$\Sigma F(x) = 517$		$\Sigma f(x-\bar{x})^2 = 2403.87$

$f(x-\bar{x})A$
0
68.81
48.30
0.34
5.17
508.5
6068
$\Sigma(x-\bar{x})A = 234.15$

234.15

$$\bar{x} = \frac{\Sigma f(x-\bar{x})A}{\Sigma f} = \frac{517}{29} = 17.83$$

$$\text{standard deviation} = \sqrt{\frac{\Sigma f(x-\bar{x})^2 A}{\Sigma f - 1}} = \sqrt{\frac{2403.87}{29.1}} = 9.27$$

$$\text{mean deviation} = \frac{\Sigma f|x-\bar{x}|A}{\Sigma f} = \frac{234.15}{29} = 8.07$$

\bar{x}

$$\text{CV} = \frac{\text{SD}}{\text{mean}} \times 100$$

$$= \frac{9.27}{17.83} \times 100 = 51.99$$

GROUP B							
C.I	F	C.B	x	Fx	$(x-\bar{x})$	$F(x-\bar{x})^2$	$f x-\bar{x} $
1-5	2	0.5-5.5	3	6	-17.14	587.	34.28
6-10	4	5.5-10.5	8	32	-12.14	589.52	48.56
11-15	7	10.5-15.5	13	91	-7.14	356.86	49.98
16-20	20	15.5-20.5	18	360	-2.14	91.60	42.80
21-25	16	20.5-25.5	23	368	2.86	130.88	45.76
26-30	10	25.5-30.5	28	280	7.86	617.80	78.60
31-35	4	30.5-35.5	33	132	12.86	661.52	51.44
$\Sigma f = 63$				$\Sigma Fx = 1267$		$\Sigma F(x-\bar{x})^2 = 3035.74$	$\Sigma f x-\bar{x} = 351.42$

$$1.) \text{ mean of group B } (\bar{x}) = \frac{\Sigma Fx}{\Sigma f} = \frac{1267}{63} = 20.14$$

$$\text{Standard deviation} = \sqrt{\frac{\Sigma F(x-\bar{x})^2}{\Sigma f}} = \sqrt{\frac{3035.74}{63}}$$

$$= 6.977 \approx 7.00$$

$$\text{mean deviation} = \frac{\Sigma f|x-\bar{x}|}{\Sigma f} = \frac{351.42}{63} = 5.58$$

∴

$$\text{I.I Coefficient of variation} = \frac{SD}{\text{mean}} \times 100$$

$$= \frac{7}{20.14} \times 100 = 34.76$$

∴∴∴ Group B has less variable distribution