Assignment (4)

a) sample = {1, 2, 2, 3, 4, 5}

find Variance (s^2) & S.D {$

Sample Variance (s^2) = $\frac{\sum_{i=1}^{n} (x_i - \bar{x})^2}{n-1}$

$$S.D = \sqrt{s^2}$$

A) $\bar{x} = \frac{1+2+2+3+4+5}{6} = \frac{17}{6} = 2.83$

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x	$\bar{x}$	$(x-\bar{x})$	$(x-\bar{x})^2$
1	2.83	−1.83	3.34
2	2.83	−0.83	0.68
2	2.83	−0.83	0.68
3	2.83	0.17	0.02
4	2.83	1.17	1.36
5	2.83	2.17	4.70
			10.78

$$S^2 = \sum_{i=1}^{n} \frac{(x_i - \bar{x})^2}{n-1} = \frac{10.78}{6-1} = \frac{10.78}{5}$$

$$= 2.15 \text{ A}.$$

$$\text{S.D} = \sqrt{S^2}$$

$$= \sqrt{2.15} = 1.46 \text{ A}.$$