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1. $\bar{x} = \frac{3.3 + 6.3 + 9.5 + 7.4 + 4.0 + 9.6}{6} = 6.6833$

2. MATLAB CODE

```
samp = [3.3, 6.3, 9.5, 7.4, 4.0, 9.6]
s = std(samp)
```

standard deviation = 2.6739

3. Population Variance, σ^2 - unknown

$$\bar{x} \pm t^{n-1}_{\alpha/2} \frac{s}{\sqrt{n}}$$

$$6.6833 \pm t^{5}_{0.05} \times \frac{2.6739}{\sqrt{6}}$$

$$= 6.6833 \pm (-2.1997)$$

$$= (6.683 - 2.1997, 6.6833 + 2.1997)$$

$$= (4.4836, 8.883)$$

∴ We are 90% confident that the true mean falls in the interval (4.4836, 8.883)