Confidence Interval for one mean μ

σ^2 Known+ Normal
Or
Non-normal & n>30

$$\bar{X} \pm Z_{1-\frac{\alpha}{2}} \frac{\sigma}{\sqrt{n}}$$

$$\left(\bar{X} - Z_{1-\frac{\alpha}{2}} \frac{\sigma}{\sqrt{n}} , \bar{X} + Z_{1-\frac{\alpha}{2}} \frac{\sigma}{\sqrt{n}} \right)$$

σ^2 unKnown+ Normal+ $n \leq 30$

$$\bar{X} \pm t_{\frac{\alpha}{2},n-1} \frac{S}{\sqrt{n}}$$

$$\left(\bar{X} - t_{\frac{\alpha}{2},n-1} \frac{S}{\sqrt{n}} , \bar{X} + t_{\frac{\alpha}{2},n-1} \frac{S}{\sqrt{n}} \right)$$