MLE

Invariance : $\widehat{f(\theta)} = f(\hat{\theta})$

eg. if $\hat{\lambda} = \bar{x}$

$\Rightarrow \hat{\lambda}^2 = \bar{x}^2$

$\left(\widehat{1/\lambda}\right) = 1/\bar{x}$

NOT TRUE FOR OTHER ESTIMATORS!

$$\mathrm{Var}(\hat{\lambda}_{ML}) = \mathrm{Var}(\bar{x}_n)$$

$$= \frac{1}{n^2} \sum \mathrm{Var}(x_i) = \frac{\mathrm{Var}(x_i)}{n}$$

How might we estimate that?

$$\widehat{\mathrm{Var}}(\hat{\lambda}_{ML}) = \frac{\mathrm{Var}(\underline{x})}{n} = \frac{\sum (x_i - \bar{x})^2}{n^2}$$

↑ estimated variance of estimator