least squares	$\arg\min_{\beta_0,\beta_1} \sum_{i=1}^{n} \left(Y_i - (\beta_0 + \beta_1 X_i)\right)^2$
MSE	$E\left[(\hat{\beta} - \beta_{true})^2\right] \approx \frac{1}{M} \sum_{m=1}^{M} (\hat{\beta}_m - \beta_{true})^2$
Bias	$E[T(X)] - \theta_{true}$ (e.g) $\hat{\sigma}^2 - \sigma^2$ ↳ Get using MC estimates
Std Error	$\frac{\sigma}{\sqrt{N}}$
Var	$var(\bar{X}) \approx \hat{var}(\bar{X}) = \frac{1}{M-1} \sum_{i=1}^{M} (\hat{\beta}_i - E[\bar{\beta}])^2$
s^2 vs σ^2	$s^2 = \frac{1}{n-1}$, $\sigma^2 = \frac{1}{n}$
Bias	$\frac{1}{M} \sum_{i=1}^{M} T_i(X) - \theta_{true}$ ↳ $\hat{E}(T(X)) = \frac{1}{M} \sum_{i=1}^{M} T_m(X) \xrightarrow[M \to \infty]{LLN} E[T(X)]$
Performance Indicators	1) Bias$(\hat{\beta})$: $\frac{1}{M} \sum_{m=1}^{M} \hat{\beta}_m - \beta_{true} = \bar{\hat{\beta}} - \beta_{true}$ 2) var$(\hat{\beta})$: $\frac{1}{M-1} \sum_{m=1}^{M} (\hat{\beta}_m - \bar{\hat{\beta}})^2 = \hat{SE}(\hat{\beta})^2$ ↳ MC est of β – average of your MC estimates of β 3) MSE$(\hat{\beta})$: $E\left[(\hat{\beta} - \beta_{true})^2\right] \approx \frac{1}{M} \sum_{m=1}^{M} (\hat{\beta}_m - \beta_{true})^2 = \hat{MSE}(\hat{\beta})$ ↓ MC estimate of β – actual β ↳ RMSE $= \sqrt{MSE}$

Confidence Intervals.

Quantile based : $\left[\{\hat{\theta}\}_{.025} , \{\hat{\theta}\}_{.975} \right]$
Naive