

Common Notation in Statistics

CONCEPT	POPULATION	SAMPLE
Mean	μ	\bar{x}
Covariance	σ_{xy}	$\hat{\sigma}_{xy}$, $\text{cov}(x,y)$
Variance	σ_x^2 , σ^2	$\hat{\sigma}_x^2$, $\hat{\sigma}^2$, s^2 , $\text{var}(x)$
Standard Deviation	σ_x , σ	$\hat{\sigma}_x$, $\hat{\sigma}$, s , $\text{sd}(x)$
Correlation	ρ_{xy}	r_{xy} , r , $\text{corr}(x,y)$
Standard Error	There is none!!!	SE_{b_1} , $SE(b_1)$

Greek letters tend to be used for population parameters, Roman for sample parameters, and hats tend to be used for predictions.

Sums of Squares:

TSS = Total Sum of Squares, TSS = ESS + RSS

ESS = Explained Sum of Squares OR Error Sum of Squares

RSS = Regression Sum of Squares OR Residual Sum of Squares

Pay attention to ESS and RSS because the mean opposite things, depending up on the abbreviation!