Value	Estimate	Formula	Estimated Standard Error	Test Statistic	Two-sided CI
β_1	b_1	$\frac{\sum_{i=1}^n (X_i-\bar{X})(Y_i-\bar{Y})}{\sum_{i=1}^n (X_i-\bar{X})^2}$	$s[b_1]=\sqrt{\frac{MSE}{\sum_{i=1}^n (X_i-\bar{X})^2}}$	$\frac{b_1-\beta_1}{s[b_1]} \sim t_{n-2}$	$b_1 \pm t_{1-\alpha/2;n-2} s[b_1]$
β_0	b_0	$\bar{Y}-b_1\bar{X}$	$s[b_0]=\sqrt{MSE\left[\frac{1}{n}+\frac{\bar{X}^2}{\sum_{i=1}^n (X_i-\bar{X})^2}\right]}$	$\frac{b_0-\beta_0}{s[b_0]} \sim t_{n-2}$	$b_0 \pm t_{1-\alpha/2;n-2} s[b_0]$
$\mathsf{E}(Y_h)$	$\hat{Y}_h$	$b_0+b_1X_h$ or $\bar{Y}+b_1(X_h-\bar{X})$	$s[\hat{Y}_h]=\sqrt{MSE\left[\frac{1}{n}+\frac{(X_h-\bar{X})^2}{\sum_{i=1}^n (X_i-\bar{X})^2}\right]}$	$\frac{\hat{Y}_h-\mathsf{E}[Y_h]}{s[\hat{Y}_h]} \sim t_{n-2}$	$\hat{Y}_h \pm t_{1-\alpha/2;n-2} s[\hat{Y}_h]$
$Y_{h(new)}$	$\hat{Y}_h$	$b_0+b_1X_h$ or $\bar{Y}+b_1(X_h-\bar{X})$	$s[\text{pred}]=\sqrt{MSE\left[1+\frac{1}{n}+\frac{(X_h-\bar{X})^2}{\sum_{i=1}^n (X_i-\bar{X})^2}\right]}$	$\frac{Y_{h(new)}-\hat{Y}_h}{s[\text{pred}]} \sim t_{n-2}$	$\hat{Y}_h \pm t_{1-\alpha/2;n-2} s[\text{pred}]$
σ^2	MSE	$\frac{\sum_{i=1}^n (Y_i-\hat{Y}_i)^2}{n-2}$		$\frac{(n-2)MSE}{\sigma^2} \sim \chi^2_{n-2}$	$\left(\frac{(n-2)MSE}{\chi^2_{1-\alpha/2;n-2}}, \frac{(n-2)MSE}{\chi^2_{\alpha/2;n-2}}\right)$
ε_i	e_i	$Y_i-\hat{Y}_i$			

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square
Regression	$SSR=\sum_{i=1}^n (\hat{Y}_i-\bar{Y})^2 = b_1^2\sum_{i=1}^n (X_i-\bar{X})^2 = \frac{\left[\sum (Y_i-\bar{Y})(X_i-\bar{X})\right]^2}{\sum (X_i-\bar{X})^2}$	1	$MSR=\frac{SSR}{1}=SSR$
Error	$SSE=\sum_{i=1}^n e_i^2=\sum_{i=1}^n (Y_i-\hat{Y}_i)^2$	$n-2$	$MSE=\frac{SSE}{n-2}$
Corrected Total	$SSTO=\sum_{i=1}^n (Y_i-\bar{Y})^2 = SSR+SSE$	$n-1$	

Coefficient of Determination: $R^2=\frac{SSR}{SSTO}$