

## ANOVA TABLE

<i>Source</i>	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>
Regression, Fitting the model	$p + 1$	$\mathbf{y}'\mathbf{X}(\mathbf{X}'\mathbf{X})^{-1}\mathbf{X}'\mathbf{y}$	$SSR / df$	$MS_R / MS_E$
Error, Residual	$n - p - 1$	$\mathbf{y}'[\mathbf{I} - \mathbf{X}(\mathbf{X}'\mathbf{X})^{-1}\mathbf{X}']\mathbf{y}$	$SSE / df$	
Total	$n$	$\mathbf{y}'\mathbf{y}$		

*Some new SPSS commands to complete this analysis.*

Compute  $n = \text{nrow}(x)$ .

Compute  $p = \text{ncol}(x)$ .

Compute  $dfr = p + 1$ .

Compute  $dfe = n - p - 1$ .

Compute  $\mathbf{I} = \text{Ident}(n,n)$ .

Compute  $SSE = \mathbf{T}(\mathbf{y}) * (\mathbf{I} - \mathbf{X} * (\text{Inv}(\mathbf{T}(\mathbf{X}) * \mathbf{X})) * \mathbf{T}(\mathbf{X})) * \mathbf{y}$ .

Compute  $MSE = SSE / dfe$ .

Compute  $VBeta = \text{Inv}(\mathbf{T}(\mathbf{X}) * \mathbf{X}) * MSE$ .

Compute  $SEBeta = \text{Sqrt}(VBeta)$ .