SS Types

$SS(AB|A,B) = SS(A,B,AB) – SS(A,B)$
$SS(A|B,AB) = SS(A,B,AB) – SS(B,AB)$
$SS(B|A,AB) = SS(A,B,AB) – SS(A,AB)$
$SS(A|B) = SS(A,B) – SS(B)$
$SS(B|A) = SS(A,B) – SS(A)$
The notation shows the incremental differences in sums of squares
$SS(AB|A,B)$ represents the sum of squares for interaction after the main effects
$SS(A|B)$ is the sum of squares for the A main effect after the B main effect and ignoring interactions
The different types of sums of squares then arise depending on the stage of model reduction at which they are carried out.

Type I

Type I: $SS(A)$ for A, $SS(B|A)$ for B, $SS(AB|B,A)$ for interaction AB
Tests ME of A, followed by the ME of B after the ME of A, followed by AB after the MEs. Not great with unbalanced data

Type III

Type III: $SS(A|B,AB)$ for A, $SS(B|A,AB)$ for B
Tests for ME after the other ME and interact. Good for signif interacts not great for ME

Summary

Data balanced, the factors orthogonal: all types same
Usually the hypothesis of interest is about the significance of one factor while controlling for the level of the other factors (Type II,III)

Type II

Type II: $SS(A|B)$ for A, $SS(B|A)$ for B
Tests for each ME after the other ME.
no significant interaction. test for interaction first ($SS(AB|A,B)$) and only if AB is not significant, continue with the analysis for main effects
Computationally, this is equivalent to running a type I analysis with different orders of the factors, and taking the appropriate output