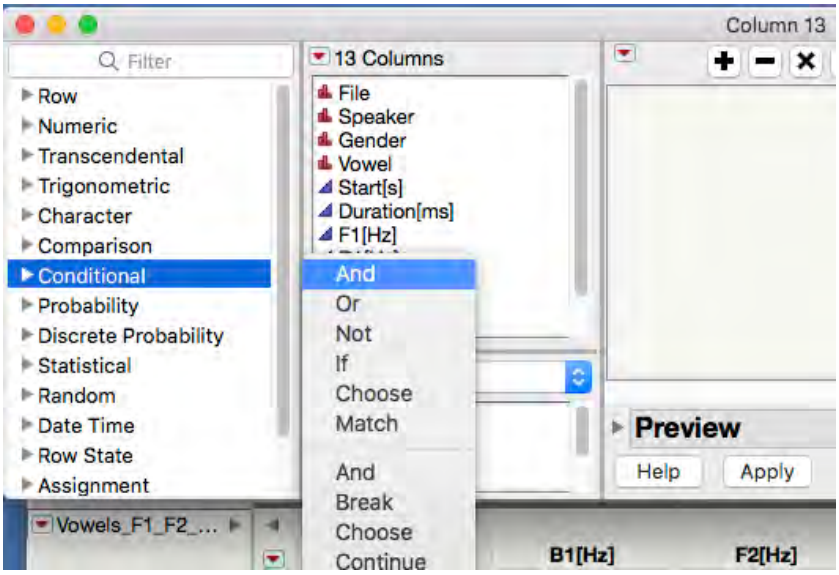
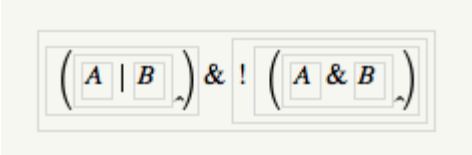
'Logical' combination in a Formular (e.g. in an If-statement)



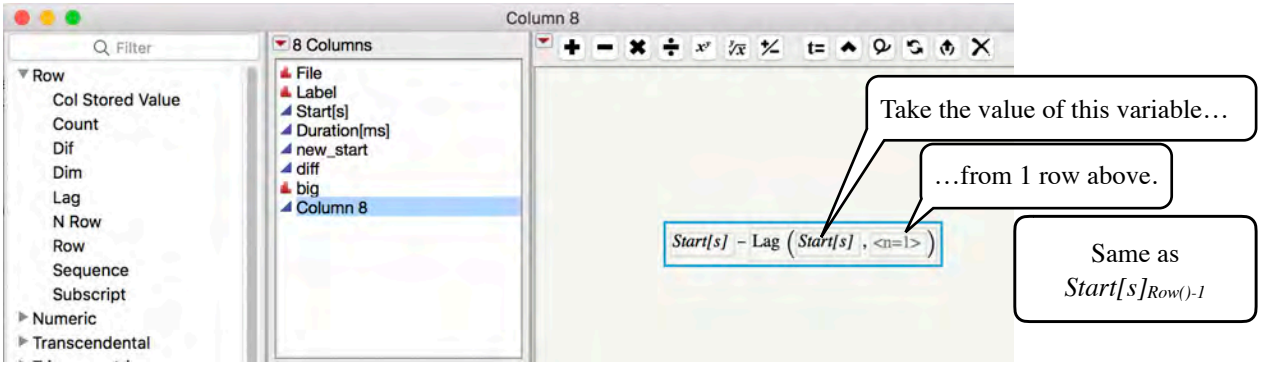
Combining 'True' (1) and 'False' (0) with
'And' (both, A and B, must be true)
'Or' (either one, A or B, or both are true)
'Xor' (either A or B are true, but not both) –
'Xor' is not part of JMPs function, use '(A Or B) And Not (A And B)' instead:



A	B	And	Or	Xor
0	0	0	0	0
0	1	0	1	1
1	0	0	1	1
1	1	1	1	0

Computation across different rows in (same or different) columns

Example: Computing the duration between two consecutive '*Start[s]* of a segment' times:



Type I (α, error of first kind, false positive) errors and Type II (β, error of second kind, false negative) errors.

Total %		Estimated [a]		
		0	**1**	**Total**
Real [a]	**0**	48.61	23.70	[illegible]
	1	4.03	23.66	27.69
	Total	52.64	47.36	

These should be large (correct predictions)

False positive (α, Type I): predicted to be an [a], but it is not an [a]

False negative (β, Type II): predicted to be not an [a], but it is an [a]

This table is often given in textbooks with the 'Nullhypothesis' (H_0) of a statistical test. This nullhypothesis is usually the opposite of what should be tested (e.g. Nullhypothesis: "The F1-values of the vowels [a:] and [i:] are not different") and is than rejected by the test (i.e., such a statement would be rejected on 5% level) so that the alternative hypothesis (*Ha*: "The F1-values of the vowels [a:] and [i:] are different") is accepted. Consequently, the table of error types is also formulated in th e'opposite' way.

Table of error types		**Decision**	
		Do not reject H_0	**Reject H_0**
Actual	***H_0 is true***	Correct decision (Confidence interval = 1-α)	Type I error (False positive, α-risk)
	Ha is true	Type II error (False negative, β-risk)	Correct decision (Power = 1-β)