Lec 21_1

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Becasue in the full model with all indicators, each indicator representing a level in a categorical variable is in fact a binary variable, which means it has value either 0 or 1. Therefore, regardless of the value of indicator, each model term can be written as only a parameter. That is: when the indicator is 0 the whole term is automaticlly 0; when indicator is 1, the parameter stays in the model.

Furthermore, an observation belongs to only one level of each categorical variable, so in the model we should expect to see only one main effect indicator from each category is non-zero. And hence only the interactions between non-zero indicators stay, which can also be written as parameters themselves since interaction indicators are also either 0 or 1.

Moreover, the baseline levels of each categorical variable has been added to the intercept, so in this case we only have the second level indicator of each variable left.