

1) Check inputs

2) Embrace every single symbol (only single symbols, not sequences, which have already been merged with $[]$ or $()$) with $\{ \}$ brackets

3) Join the sequence and introduce a temporary category for symbols which have to be removed

4) Find symbol sequence through computation of

$$\text{ind} = \begin{bmatrix} 1 \\ 1 \\ 1 \\ 1 \\ \vdots \\ 1 \end{bmatrix} \quad \begin{matrix} 0 \\ 0 \\ 0 \\ 0 \\ \vdots \\ 0 \end{matrix} \quad \begin{matrix} \text{False}_1 \\ \text{vec} \\ \text{==} \\ \text{symb}_1 \end{matrix} \quad \begin{matrix} \text{False}_2 \\ \text{vec} \\ \text{==} \\ \text{symb}_2 \end{matrix} \quad \begin{matrix} \text{False}_n \\ \text{vec} \\ \text{==} \\ \text{symb}_n \end{matrix}$$

$$\begin{bmatrix} 0 \\ 0 \\ 0 \\ 0 \\ \vdots \\ 0 \end{bmatrix} \quad \begin{matrix} \text{False}_1 \\ \text{vec} \\ \text{==} \\ \text{symb}_1 \end{matrix} \quad \begin{matrix} \text{False}_2 \\ \text{vec} \\ \text{==} \\ \text{symb}_2 \end{matrix} \quad \begin{matrix} \text{False}_n \\ \text{vec} \\ \text{==} \\ \text{symb}_n \end{matrix}$$

$$\begin{bmatrix} 0 \\ 0 \\ 0 \\ 0 \\ \vdots \\ 0 \end{bmatrix} \quad \begin{matrix} \text{False}_1 \\ \text{vec} \\ \text{==} \\ \text{symb}_1 \end{matrix} \quad \begin{matrix} \text{False}_2 \\ \text{vec} \\ \text{==} \\ \text{symb}_2 \end{matrix} \quad \begin{matrix} \text{False}_n \\ \text{vec} \\ \text{==} \\ \text{symb}_n \end{matrix}$$

where False_i is a Vector of false values of the size $n_{\text{symbols}} - 1$ and False_X_i is a Vector of false values of the size $i - 1$.

The start indices of all sequences is

$$\text{allStarts} = \text{find}(\text{ind}) - n_{\text{symbols}}$$

- 5) Iterate over all "allStarts", replace the first symbol of every sequence by the ~~merged~~ symbol and the ~~remaining~~ symbols of the sequence (or the remaining symbols up to the start of the next sequence respectively) by the temporary symbol. Replace the first duration of a sequence by the sum of all durations of the sequence and the ~~data~~ remaining durations of the sequence by -1
- 6) Remove all temporary symbols and all durations of -1
- 7) Compress symbols and sequences