$$\begin{split} \mathrm{dp}[\mathrm{i}][\mathrm{j}] &= \begin{cases} \min_{\{i \leq r \leq j\}} (\mathrm{dp}[\mathrm{i}][\mathrm{r-1}] + \mathrm{dp}[\mathrm{r+1}][\mathrm{j}]) + w(i,j) \text{ if } \mathrm{j-i} = 1 \\ q_{i-1} \text{ if } \mathrm{j-i} = 1 \end{cases} \\ & \sharp | \mathrm{p}w(i,j) = \sum_{k=i}^{j} p_k + \sum_{k=i-1}^{j} q_k \end{split}$$