$L0 = (a_{01}, a_{01} \cdot a_{02}, a_{01} \cdot a_{02} \cdot a_{03}, \underline{\quad}, a_{01} \cdot a_{02} \cdots an_{(l-1)})$

↳hier $L0 = (1, a_{01}, a_{01} \cdot a_{02}, a_{01} \cdot a_{02} \cdot a_{03}, a_{01} \cdot a_{02} \cdot a_{03} \cdot a_{10}, a_{01} \cdot a_{02} \cdot a_{03} \cdot a_{10}, \underline{\quad})$

$a_{11} = a_{01} + \boxed{v_1} \Rightarrow L[0]$

$a_{12} = a_{02} + a_{01} \cdot \boxed{v_1} \quad L[1]$

$a_{13} = a_{03} + a_{01} \cdot a_{02} \cdot \boxed{v_1} \quad L[2]$

$a_{21} = a_{11} + \boxed{v_2} = a_{01} + v_1 + \boxed{v_2} = L[0] + v_2 = L[0]$ (wir brauchen somit eigentlich nur a_{01} / a_{0l})

$a_{22} = a_{12} + a_{11}\boxed{v_2} = a_{02} + a_{01} \cdot v_1 + (a_{01} + v_1) \cdot \boxed{v_2} = L[1] + L[0] \cdot v_2 = L[1]$

$a_{23} = a_{13} + a_{11} \cdot a_{12} \boxed{v_2} = a_{03} + a_{01} \cdot a_{02} \cdot v_1 + (a_{01} + v_1) \cdot (a_{02} + a_{01} \cdot v_1) \cdot v_2$
$= L[2] + L[0] \cdot L[1] \cdot v_2 = L[2]$

$a_{31} = a_{21} + v_3 = a_{01} + v_1 + v_2 + v_3 = L[0] + v_3 = L[0]$

$a_{32} = a_{22} + a_{21} \cdot v_3 = a_{02} + a_{01} \cdot v_1 + (a_{01} + v_1)v_2 + (a_{01} + v_1 + v_2) \cdot v_3$

$a_{33} = a_{23} + a_{21} \cdot a_{22} \cdot v_3 = a_{03} + a_{01} \cdot a_{02} \cdot v_1 + (a_{01} + v_1)(a_{02} + a_{01} \cdot v_1) \cdot v_2 +$
$+ (a_{01} + v_1 + v_2) \cdot (a_{02} + a_{01} \cdot v_1 + (a_{01} + v_1) \cdot v_2) \cdot v_3$

$\vdots$

Idea

$(a_{00}, a_{01}, a_{02}, a_{10}, a_{11}, a_{12}, a_{20}, \underline{\qquad})$

$L0 = (a_{01}, a_{01} \cdot a_{02}, a_{01} \cdot a_{02} \cdot a_{03}, \underline{\quad}, a_{01} \cdots a_{0l})$
   ↖ l-steps

$L1 = (a_{01} + v_1, a_{02} + a_{01} \cdot v_1), \underline{\quad}, a_{1l} = \underbrace{a_{0l}}_{L0[l]/L0[l-1]} + \underbrace{a_{01} \cdots a_{0l-1} \cdot v_1}_{L0[l-1]})$

$L_i = L_{i-1}[0] + v_i, \; L_{i-1}[1]/L_{i-1}[0] \xrightarrow{+ L_{i-1}[0] \cdot v_i}, \; L_{i-1}[2]/L_{i-1}[1], \nearrow$

→ ┌─────────────────────────┐
  │ update $\underline{same}$ vectors, │
  │ don't create new ones! │
  └─────────────────────────┘

┌─────────────────────────┐
│ $L_{i-1}[j] / L_{i-1}[j-1]$ │
│ $+ L_{i-1}[j-1] \cdot v_i$ │
└─────────────────────────┘

1) Manually code the first ℓ equations.
   Then update vector!

$$L[0] = a_{01} + \overset{L[0]/L[0]}{v_1}$$

$$L[1] = a_{02} + \overset{L[0]}{a_{01}} \cdot v_1$$

$$L[2] = a_{03} + \underset{L[1]}{\underline{a_{01} \cdot a_{02}}} \cdot v_1$$

$$\left(\underset{L[0]}{a_{01}}, \underset{L[1]/L[0]}{a_{01} \cdot a_{02}}, \underset{L[2]/L[1]}{a_{01} \cdot a_{02} \cdot a_{03}} \right).$$

$$= \left(a_{00}, \; a_{00} \cdot a_{01}, \; a_{00} \cdot a_{01} \cdot a_{02} \right)$$