

**Algorithm:**  $y := \text{SYMV\_L\_UNB\_VAR3}(L, x, y)$

**Partition**  $L \rightarrow \left( \begin{array}{c|c} L_{TL} & L_{TR} \\ \hline L_{BL} & L_{BR} \end{array} \right),$

$x \rightarrow \left( \begin{array}{c} x_T \\ \hline x_B \end{array} \right), y \rightarrow \left( \begin{array}{c} y_T \\ \hline y_B \end{array} \right)$

**where**  $L_{TL}$  is  $0 \times 0$ ,  $x_T, y_T$  are  $0 \times 1$

**while**  $m(L_{TL}) < m(L)$  **do**

**Repartition**

$\left( \begin{array}{c|c} L_{TL} & L_{TR} \\ \hline L_{BL} & L_{BR} \end{array} \right) \rightarrow \left( \begin{array}{c|c|c} L_{00} & l_{01} & L_{02} \\ \hline l_{10}^T & \lambda_{11} & l_{12}^T \\ \hline L_{20} & l_{21} & L_{22} \end{array} \right),$

$\left( \begin{array}{c} x_T \\ \hline x_B \end{array} \right) \rightarrow \left( \begin{array}{c} x_0 \\ \hline \chi_1 \\ \hline x_2 \end{array} \right), \left( \begin{array}{c} y_T \\ \hline y_B \end{array} \right) \rightarrow \left( \begin{array}{c} y_0 \\ \hline \psi_1 \\ \hline y_2 \end{array} \right)$

$\psi_1 := \lambda_{21}^T x_2 + \psi_1$

$\psi_1 := \chi_1 \lambda_{11} + \psi_1$

$y_2 := \chi_1 l_{21} + y_2$

**Continue with**

$\left( \begin{array}{c|c} L_{TL} & L_{TR} \\ \hline L_{BL} & L_{BR} \end{array} \right) \leftarrow \left( \begin{array}{c|c|c} L_{00} & l_{01} & L_{02} \\ \hline l_{10}^T & \lambda_{11} & l_{12}^T \\ \hline L_{20} & l_{21} & L_{22} \end{array} \right),$

$\left( \begin{array}{c} x_T \\ \hline x_B \end{array} \right) \leftarrow \left( \begin{array}{c} x_0 \\ \hline \chi_1 \\ \hline x_2 \end{array} \right), \left( \begin{array}{c} y_T \\ \hline y_B \end{array} \right) \leftarrow \left( \begin{array}{c} y_0 \\ \hline \psi_1 \\ \hline y_2 \end{array} \right)$

**endwhile**