Step	Annotated Algorithm: $B := L^{-1}B$
1a	$\left\{ B = \hat{\hat{B}} \right\}$
4	**Partition** $L \rightarrow \left(\begin{array}{cc} L_{TL} & 0 \\ \hline L_{BL} & L_{BR} \end{array}\right)$, $B \rightarrow \left(\begin{array}{c} B_T \\ \hline B_B \end{array}\right)$, and $\hat{B} \rightarrow \left(\begin{array}{c} \hat{B}_T \\ \hline \hat{B}_B \end{array}\right)$ **where** L_{TL} is 0×0, and B_T and $\hat{B}_T$ have 0 rows
2	$\left\{ \left(\begin{array}{c} B_T \\ \hline B_B \end{array}\right) = \left(\begin{array}{c} L_{TL}^{-1}\hat{B}_T \\ \hline \hat{B}_B - L_{BL}L_{TL}^{-1}\hat{B}_T \end{array}\right) \right\}$
3	**while** $n(L_{TL}) \neq n(L)$ **do**
2,3	$\left\{ \left(\left(\begin{array}{c} B_T \\ \hline B_B \end{array}\right) = \left(\begin{array}{c} L_{TL}^{-1}\hat{B}_T \\ \hline \hat{B}_B - L_{BL}L_{TL}^{-1}\hat{B}_T \end{array}\right) \right) \wedge (n(L_{TL}) \neq n(L)) \right\}$
5a	**Repartition** $\left(\begin{array}{cc} L_{TL} & 0 \\ \hline L_{BL} & L_{BR} \end{array}\right) \rightarrow \left(\begin{array}{ccc} L_{00} & 0 & 0 \\ \hline l_{10}^T & \lambda_{11} & 0 \\ \hline L_{20} & l_{21} & L_{22} \end{array}\right)$, $\left(\begin{array}{c} B_T \\ \hline B_B \end{array}\right) \rightarrow \left(\begin{array}{c} B_0 \\ \hline b_1^T \\ \hline B_2 \end{array}\right)$, and $\left(\begin{array}{c} \hat{B}_T \\ \hline \hat{B}_B \end{array}\right) \rightarrow \left(\begin{array}{c} \hat{B}_0 \\ \hline \hat{b}_1^T \\ \hline \hat{B}_2 \end{array}\right)$ **where** λ_{11} is a scalar and b_1^T and $\hat{b}_1^T$ are rows
6	$\left\{ \left(\begin{array}{c} B_0 \\ \hline b_1^T \\ \hline B_2 \end{array}\right) = \left(\begin{array}{c} L_{00}^{-1}\hat{B}_0 \\ \hline \hat{b}_1^T - l_{10}^T L_{00}^{-1}\hat{B}_0 \\ \hline \hat{B}_2 - L_{20}L_{00}^{-1}\hat{B}_0 \end{array}\right) \right\}$
8	$b_1^T := b_1^T / \lambda_{11}$ $B_2 := B_2 - l_{21} b_1^T$
5b	**Continue with** $\left(\begin{array}{cc} L_{TL} & 0 \\ \hline L_{BL} & L_{BR} \end{array}\right) \leftarrow \left(\begin{array}{ccc} L_{00} & 0 & 0 \\ l_{10}^T & \lambda_{11} & 0 \\ \hline L_{20} & l_{21} & L_{22} \end{array}\right)$, $\left(\begin{array}{c} B_T \\ \hline B_B \end{array}\right) \leftarrow \left(\begin{array}{c} B_0 \\ b_1^T \\ \hline B_2 \end{array}\right)$, and $\left(\begin{array}{c} \hat{B}_T \\ \hline \hat{B}_B \end{array}\right) \leftarrow \left(\begin{array}{c} \hat{B}_0 \\ \hat{b}_1^T \\ \hline \hat{B}_2 \end{array}\right)$
7	$\left\{ \left(\begin{array}{c} B_0 \\ b_1^T \\ \hline B_2 \end{array}\right) = \left(\begin{array}{c} L_{00}^{-1}\hat{B}_0 \\ \hline \lambda_{11}^{-1}(\hat{b}_1^T - l_{10}^T L_{00}^{-1}\hat{B}_0) \\ \hline \hat{B}_2 - L_{20}L_{00}^{-1}\hat{B}_0 - l_{21}\lambda_{11}^{-1}(\hat{b}_1^T - l_{10}^T L_{00}^{-1}\hat{B}_0) \end{array}\right) \right\}$
2	$\left\{ \left(\begin{array}{c} B_T \\ \hline B_B \end{array}\right) = \left(\begin{array}{c} L_{TL}^{-1}\hat{B}_T \\ \hline \hat{B}_B - L_{BL}L_{TL}^{-1}\hat{B}_T \end{array}\right) \right\}$
	enddo
2,3	$\left\{ \left(\left(\begin{array}{c} B_T \\ \hline B_B \end{array}\right) = \left(\begin{array}{c} L_{TL}^{-1}\hat{B}_T \\ \hline \hat{B}_B - L_{BL}L_{TL}^{-1}\hat{B}_T \end{array}\right) \right) \wedge \neg (n(L_{TL}) \neq n(L)) \right\}$
1b	$\left\{ B = L^{-1}\hat{\hat{B}} \right\}$

Figure 1: Worksheet for deriving unblocked algorithm for $B := L^{-1}B$ (Variant 2).

Partition $L \rightarrow \left(\begin{array}{c||c} L_{TL} & 0 \\ \hline\hline L_{BL} & L_{BR} \end{array}\right)$, and $B \rightarrow \left(\begin{array}{c} B_T \\ \hline\hline B_B \end{array}\right)$

where L_{TL} is 0×0 and B_T has 0 rows

while $n(L_{TL}) \neq n(L)$ **do**

Repartition

$$\left(\begin{array}{c||c} L_{TL} & 0 \\ \hline\hline L_{BL} & L_{BR} \end{array}\right) \rightarrow \left(\begin{array}{c||c|c} L_{00} & 0 & 0 \\ \hline\hline l_{10}^T & \lambda_{11} & 0 \\ \hline L_{20} & l_{21} & L_{22} \end{array}\right) \text{ and } \left(\begin{array}{c} B_T \\ \hline\hline B_B \end{array}\right) \rightarrow \left(\begin{array}{c} B_0 \\ \hline\hline b_1^T \\ \hline B_2 \end{array}\right)$$

where λ_{11} is a scalar and b_1^T is a row

$b_1^T := b_1^T / \lambda_{11}$

$B_2 := B_2 - l_{21} b_1^T$

Continue with

$$\left(\begin{array}{c||c} L_{TL} & 0 \\ \hline\hline L_{BL} & L_{BR} \end{array}\right) \leftarrow \left(\begin{array}{c|c||c} L_{00} & 0 & 0 \\ \hline l_{10}^T & \lambda_{11} & 0 \\ \hline\hline L_{20} & l_{21} & L_{22} \end{array}\right), \left(\begin{array}{c} B_T \\ \hline\hline B_B \end{array}\right) \leftarrow \left(\begin{array}{c} B_0 \\ \hline b_1^T \\ \hline\hline B_2 \end{array}\right),$$

$$\text{and } \left(\begin{array}{c} \hat{B}_T \\ \hline\hline \hat{B}_B \end{array}\right) \leftarrow \left(\begin{array}{c} \hat{B}_0 \\ \hline \hat{b}_1^T \\ \hline\hline \hat{B}_2 \end{array}\right)$$

enddo

Figure 2: Algorithm for deriving unblocked algorithm for $B := L^{-1}B$ (Variant 2).