

Step	Annotated Algorithm: $B := L^{-1}B$
1a	$\{B = \hat{B}\}$
4	Partition $L \rightarrow \left(\begin{array}{c c} L_{TL} & 0 \\ \hline L_{BL} & L_{BR} \end{array} \right), B \rightarrow \left(\begin{array}{c} B_T \\ \hline B_B \end{array} \right),$ 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 $\left(\begin{array}{c c} L_{TL} & 0 \\ \hline L_{BL} & L_{BR} \end{array} \right) \rightarrow \left(\begin{array}{c c c} L_{00} & 0 & 0 \\ \hline l_{10}^T & \lambda_{11} & 0 \\ \hline L_{20} & l_{21} & L_{22} \end{array} \right), \left(\begin{array}{c} B_T \\ \hline B_B \end{array} \right) \rightarrow \left(\begin{array}{c} B_0 \\ \hline b_1^T \\ \hline B_2 \end{array} \right),$ 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 $\left(\begin{array}{c c} L_{TL} & 0 \\ \hline L_{BL} & L_{BR} \end{array} \right) \leftarrow \left(\begin{array}{c c c} L_{00} & 0 & 0 \\ \hline l_{10}^T & \lambda_{11} & 0 \\ \hline L_{20} & l_{21} & L_{22} \end{array} \right), \left(\begin{array}{c} B_T \\ \hline B_B \end{array} \right) \leftarrow \left(\begin{array}{c} B_0 \\ \hline b_1^T \\ \hline B_2 \end{array} \right),$ and $\left(\begin{array}{c} \hat{B}_T \\ \hline \hat{B}_B \end{array} \right) \leftarrow \left(\begin{array}{c} \hat{B}_0 \\ \hline \hat{b}_1^T \\ \hline \hat{B}_2 \end{array} \right)$
7	$\left\{ \left(\begin{array}{c} B_0 \\ \hline b_1^T \\ \hline B_2 \end{array} \right) = \left(\begin{array}{c} L_{00}^{-1} \hat{B}_0 \\ \hline \lambda_{11}^{-1} (\hat{b}_1^T - l_{10}^T L_{00}^{-1} \hat{B}_0) \\ \hline \hat{B}_2 - L_{20} L_{00}^{-1} \hat{B}_0 - l_{21} \lambda_{11}^{-1} (\hat{b}_1^T - l_{10}^T L_{00}^{-1} \hat{B}_0) \end{array} \right) \right\}$
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	$\{B = L^{-1} \hat{B}\}$

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