Step	Algorithm:		
1a			
4			
	where		
2			
3	while do		
2,3		٨	
5a			
	where		
6			
8			
5b			
7			
2			
	endwhile		
2,3		^ ¬()
1b			

Step	Algorithm: $[C] := \text{SYMM_LU_BLK_VAR1}(A, B, C)$
1a	$C = \widehat{C}$
1a	
4	$B ightarrow \left(B_L \middle B_R ight) , C ightarrow \left(\left. C_L \middle C_R ight)$
	where B_L has 0 columns, C_L has 0 columns
2	$\left(C_L\middle C_R\right) = \left(\widehat{C}_L\middle \widehat{C}_R\right)$
3	while $n(B_L) < n(B)$ do
2,3	$\left(C_L \middle C_R\right) = \left(\widehat{C}_L \middle \widehat{C}_R\right) \wedge n(B_L) < n(B)$
5a	Determine block size b
	$ \begin{pmatrix} B_L B_R \end{pmatrix} \to \begin{pmatrix} B_0 B_1 B_2 \end{pmatrix}, \begin{pmatrix} C_L C_R \end{pmatrix} \to \begin{pmatrix} C_0 C_1 C_2 \end{pmatrix} $
	where B_1 has b columns, C_1 has b columns
6	$\left(C_0 \middle C_1 \middle C_2\right) = \left(AB_0 + \widehat{C}_0 \middle \widehat{C}_1 \middle \widehat{C}_2\right)$
8	$C_1 := AB_1 + C_1$
5b	$ \begin{pmatrix} B_L \middle B_R \end{pmatrix} \leftarrow \begin{pmatrix} B_0 \middle B_1 \middle B_2 \end{pmatrix}, \begin{pmatrix} C_L \middle C_R \end{pmatrix} \leftarrow \begin{pmatrix} C_0 \middle C_1 \middle C_2 \end{pmatrix} $ $ \begin{pmatrix} C_0 \middle C_1 \middle C_2 \end{pmatrix} = \begin{pmatrix} AB_0 + \widehat{C}_0 \middle AB_1 + \widehat{C}_1 \middle \widehat{C}_2 \end{pmatrix} $
7	$\left(C_0 \middle C_1 \middle C_2\right) = \left(AB_0 + \widehat{C}_0 \middle AB_1 + \widehat{C}_1 \middle \widehat{C}_2\right)$
2	$\left(C_L\middle C_R\right) = \left(\widehat{C}_L\middle \widehat{C}_R\right)$
	endwhile
2,3	$\left(C_L \middle C_R\right) = \left(\widehat{C}_L \middle \widehat{C}_R\right) \land \neg (n(B_L) < n(B))$
1b	$[C] = \operatorname{symm_lu}(A, B, \widehat{C})$

Algorithm:
$$[C] := \text{SYMM_LU_BLK_VAR1}(A, B, C)$$
 $B \to \begin{pmatrix} B_L | B_R \end{pmatrix}$, $C \to \begin{pmatrix} C_L | C_R \end{pmatrix}$

where B_L has 0 columns, C_L has 0 columns

while $n(B_L) < n(B)$ do

Determine block size b
 $\begin{pmatrix} B_L | B_R \end{pmatrix} \to \begin{pmatrix} B_0 | B_1 | B_2 \end{pmatrix}$, $\begin{pmatrix} C_L | C_R \end{pmatrix} \to \begin{pmatrix} C_0 | C_1 | C_2 \end{pmatrix}$

where B_1 has b columns, C_1 has b columns

 $C_1 := AB_1 + C_1$
 $\begin{pmatrix} B_L | B_R \end{pmatrix} \leftarrow \begin{pmatrix} B_0 | B_1 | B_2 \end{pmatrix}$, $\begin{pmatrix} C_L | C_R \end{pmatrix} \leftarrow \begin{pmatrix} C_0 | C_1 | C_2 \end{pmatrix}$
endwhile

Step	Algorithm: $[C] := \text{SYMM_LU_BLK_VAR1}(A, B, C)$
1a	$C = \widehat{C}$
4	
	where
2	
3	while do
2,3	\wedge
5a	Determine block size
	where
6	WILCO
8	
5b	
7	
2	
	endwhile
2,3	$\wedge \neg ($
1b	$[C] = \operatorname{symm_lu}(A, B, \widehat{C})$

Step	Algorithm: $[C] := \text{SYMM_LU_BLK_VAR1}(A, B, C)$
1a	$C = \widehat{C}$
4	
	where
2	$\left(C_L\middle C_R\right) = \left(\widehat{C}_L\middle \widehat{C}_R\right)$
3	while do
2,3	$\left(C_L\middle C_R\right) = \left(\widehat{C}_L\middle \widehat{C}_R\right) \wedge$
5a	Determine block size
	where
6	
8	
5b	
7	
2	$\left(C_L\middle C_R\right) = \left(\widehat{C}_L\middle \widehat{C}_R\right)$
	endwhile
2	$\left(C_L\middle C_R\right) = \left(\widehat{C}_L\middle \widehat{C}_R\right) \land \neg($
1b	$[C] = \operatorname{symm_lu}(A, B, \widehat{C})$

G.	41 11 [0] 1/4 D 0\
Step	Algorithm: $[C] := \text{SYMM_LU_BLK_VAR1}(A, B, C)$
1a	$C = \widehat{C}$
4	
	where
2	$\left(C_L \middle C_R\right) = \left(\widehat{C}_L \middle \widehat{C}_R\right)$
3	while $n(B_L) < n(B)$ do
2,3	$\left(C_L \middle C_R\right) = \left(\widehat{C}_L \middle \widehat{C}_R\right) \wedge n(B_L) < n(B)$
5a	Determine block size
	where
6	
8	
5b	
7	
2	$\left(C_L \middle C_R\right) = \left(\widehat{C}_L \middle \widehat{C}_R\right)$
	endwhile
2,3	$\left(C_L \middle C_R\right) = \left(\widehat{C}_L \middle \widehat{C}_R\right) \land \neg (n(B_L) < n(B))$
1b	$[C] = \operatorname{symm_lu}(A, B, \widehat{C})$

Step	Algorithm: $[C] := \text{SYMM_LU_BLK_VAR1}(A, B, C)$
1a	$C = \widehat{C}$
4	$B \to \begin{pmatrix} B_L B_R \end{pmatrix}$, $C \to \begin{pmatrix} C_L C_R \end{pmatrix}$ where B_L has 0 columns, C_L has 0 columns
2	$\left(C_L\middle C_R\right) = \left(\widehat{C}_L\middle \widehat{C}_R\right)$
3	while $n(B_L) < n(B)$ do
2,3	$\left(C_L \middle C_R\right) = \left(\widehat{C}_L \middle \widehat{C}_R\right) \wedge n(B_L) < n(B)$
5a	Determine block size
	where
6	
8	
5b	
7	
2	$\left(C_L\middle C_R\right) = \left(\widehat{C}_L\middle \widehat{C}_R\right)$
	endwhile
2,3	$\left(C_L \middle C_R\right) = \left(\widehat{C}_L \middle \widehat{C}_R\right) \land \neg (n(B_L) < n(B))$
1b	$[C] = \operatorname{symm_lu}(A, B, \widehat{C})$

Step	Algorithm: $[C] := \text{SYMM_LU_BLK_VAR1}(A, B, C)$
1a	$C = \widehat{C}$
4	$B \to \begin{pmatrix} B_L B_R \end{pmatrix}$, $C \to \begin{pmatrix} C_L C_R \end{pmatrix}$ where B_L has 0 columns, C_L has 0 columns
2	$\left(C_L\middle C_R\right) = \left(\widehat{C}_L\middle \widehat{C}_R\right)$
3	while $n(B_L) < n(B)$ do
2,3	$\left(C_L \middle C_R\right) = \left(\widehat{C}_L \middle \widehat{C}_R\right) \wedge n(B_L) < n(B)$
5a	Determine block size b $\begin{pmatrix} B_L \middle B_R \end{pmatrix} \to \begin{pmatrix} B_0 \middle B_1 \middle B_2 \end{pmatrix}, \begin{pmatrix} C_L \middle C_R \end{pmatrix} \to \begin{pmatrix} C_0 \middle C_1 \middle C_2 \end{pmatrix}$ where B_1 has b columns, C_1 has b columns
6	
8	
5b	$\left(B_L \middle B_R\right) \leftarrow \left(B_0 \middle B_1 \middle B_2\right), \left(C_L \middle C_R\right) \leftarrow \left(C_0 \middle C_1 \middle C_2\right)$
7	
2	$\left(C_L\middle C_R\right) = \left(\widehat{C}_L\middle \widehat{C}_R\right)$
	endwhile
2,3	$\left(C_L \middle C_R\right) = \left(\widehat{C}_L \middle \widehat{C}_R\right) \land \neg (n(B_L) < n(B))$
1b	$[C] = \operatorname{symm_lu}(A, B, \widehat{C})$

Cton	Algorithms [C], GYMM III DIK WAD1 (A. D. C)
Step	Algorithm: $[C] := \text{SYMM_LU_BLK_VAR1}(A, B, C)$
1a	$C = \widehat{C}$
4	$B \to \begin{pmatrix} B_L B_R \end{pmatrix}$, $C \to \begin{pmatrix} C_L C_R \end{pmatrix}$ where B_L has 0 columns, C_L has 0 columns
2	where D_L has 0 columns, C_L has 0 columns $ \left(C_L \middle C_R \right) = \left(\widehat{C}_L \middle \widehat{C}_R \right) $
3	while $n(B_L) < n(B)$ do
2,3	$\left(C_L \middle C_R\right) = \left(\widehat{C}_L \middle \widehat{C}_R\right) \wedge n(B_L) < n(B)$
5a	Determine block size b
	$\left(B_L \middle B_R \right) ightarrow \left(B_0 \middle B_1 \middle B_2 \right) , \left(C_L \middle C_R \right) ightarrow \left(C_0 \middle C_1 \middle C_2 \right)$
	where B_1 has b columns, C_1 has b columns
6	$\left(C_0 \middle C_1 \middle C_2\right) = \left(AB_0 + \widehat{C}_0 \middle \widehat{C}_1 \middle \widehat{C}_2\right)$
8	
5b	$\left(B_L \middle B_R\right) \leftarrow \left(B_0 \middle B_1 \middle B_2\right), \left(C_L \middle C_R\right) \leftarrow \left(C_0 \middle C_1 \middle C_2\right)$
7	
2	$\left(C_L\middle C_R\right) = \left(\widehat{C}_L\middle \widehat{C}_R\right)$
	endwhile
2,3	$\left(C_L \middle C_R\right) = \left(\widehat{C}_L \middle \widehat{C}_R\right) \land \neg (n(B_L) < n(B))$
1b	$[C] = \operatorname{symm_lu}(A, B, \widehat{C})$

Step	Algorithm: $[C] := \text{SYMM_LU_BLK_VAR1}(A, B, C)$
1a	$C = \widehat{C}$
4	$B \to \left(B_L \middle B_R\right), C \to \left(C_L \middle C_R\right)$
	where B_L has 0 columns, C_L has 0 columns
2	$\left(C_L\middle C_R\right) = \left(\widehat{C}_L\middle \widehat{C}_R\right)$
3	while $n(B_L) < n(B)$ do
2,3	$\left(C_L \middle C_R\right) = \left(\widehat{C}_L \middle \widehat{C}_R\right) \wedge n(B_L) < n(B)$
5a	Determine block size b
	$\left(B_L \middle B_R ight) ightarrow \left(B_0 \middle B_1 \middle B_2 ight) , \left(C_L \middle C_R ight) ightarrow \left(C_0 \middle C_1 \middle C_2 ight)$
	where B_1 has b columns, C_1 has b columns
6	$\left(C_0 \middle C_1 \middle C_2\right) = \left(AB_0 + \widehat{C}_0 \middle \widehat{C}_1 \middle \widehat{C}_2\right)$
8	
5b	$ \begin{pmatrix} B_L B_R \end{pmatrix} \leftarrow \begin{pmatrix} B_0 B_1 B_2 \end{pmatrix}, \begin{pmatrix} C_L C_R \end{pmatrix} \leftarrow \begin{pmatrix} C_0 C_1 C_2 \end{pmatrix} $ $ \begin{pmatrix} C_0 C_1 C_2 \end{pmatrix} = \begin{pmatrix} AB_0 + \widehat{C}_0 AB_1 + \widehat{C}_1 \widehat{C}_2 \end{pmatrix} $
7	$\left(C_0 \middle C_1 \middle C_2\right) = \left(AB_0 + \widehat{C}_0 \middle AB_1 + \widehat{C}_1 \middle \widehat{C}_2\right)$
2	$\left(C_L\middle C_R\right) = \left(\widehat{C}_L\middle \widehat{C}_R\right)$
	endwhile
2	$\left(C_L \middle C_R\right) = \left(\widehat{C}_L \middle \widehat{C}_R\right) \land \neg (n(B_L) < n(B))$
1b	$[C] = \operatorname{symm_lu}(A, B, \widehat{C})$

Step	Algorithm: $[C] := \text{SYMM_LU_BLK_VAR1}(A, B, C)$
1a	$C = \widehat{C}$
4	$B \to \left(B_L \middle B_R\right), C \to \left(C_L \middle C_R\right)$
2	where B_L has 0 columns, C_L has 0 columns $ \begin{pmatrix} C_L C_R \end{pmatrix} = \begin{pmatrix} \hat{C}_L \hat{C}_R \end{pmatrix} $
3	while $n(B_L) < n(B)$ do
2,3	$\left(C_L \middle C_R\right) = \left(\widehat{C}_L \middle \widehat{C}_R\right) \wedge n(B_L) < n(B)$
5a	Determine block size b $\begin{pmatrix} B_L B_R \end{pmatrix} \rightarrow \begin{pmatrix} B_0 B_1 B_2 \end{pmatrix}, \begin{pmatrix} C_L C_R \end{pmatrix} \rightarrow \begin{pmatrix} C_0 C_1 C_2 \end{pmatrix}$ where B_1 has b columns, C_1 has b columns
6	$\left(C_0 \middle C_1 \middle C_2\right) = \left(AB_0 + \widehat{C}_0 \middle \widehat{C}_1 \middle \widehat{C}_2\right)$
8	$C_1 := AB_1 + C_1$
5b	$\left(B_L \middle B_R\right) \leftarrow \left(B_0 \middle B_1 \middle B_2\right), \left(C_L \middle C_R\right) \leftarrow \left(C_0 \middle C_1 \middle C_2\right)$
7	$ \begin{pmatrix} B_L B_R \end{pmatrix} \leftarrow \begin{pmatrix} B_0 B_1 B_2 \end{pmatrix}, \begin{pmatrix} C_L C_R \end{pmatrix} \leftarrow \begin{pmatrix} C_0 C_1 C_2 \end{pmatrix} $ $ \begin{pmatrix} C_0 C_1 C_2 \end{pmatrix} = \begin{pmatrix} AB_0 + \widehat{C}_0 AB_1 + \widehat{C}_1 \widehat{C}_2 \end{pmatrix} $
2	$\left(C_L \middle C_R\right) = \left(\widehat{C}_L \middle \widehat{C}_R\right)$
	endwhile
2,3	$\left(C_L \middle C_R\right) = \left(\widehat{C}_L \middle \widehat{C}_R\right) \land \neg (n(B_L) < n(B))$
1b	$[C] = \operatorname{symm_lu}(A, B, \widehat{C})$

Step	Algorithm: $[C] := \text{SYMM_LU_BLK_VAR1}(A, B, C)$
	$B \to \begin{pmatrix} B_L B_R \end{pmatrix}$, $C \to \begin{pmatrix} C_L C_R \end{pmatrix}$ where B_L has 0 columns, C_L has 0 columns
	while $n(B_L) < n(B)$ do
	Determine block size b $\begin{pmatrix} B_L B_R \end{pmatrix} \rightarrow \begin{pmatrix} B_0 B_1 B_2 \end{pmatrix}, \begin{pmatrix} C_L C_R \end{pmatrix} \rightarrow \begin{pmatrix} C_0 C_1 C_2 \end{pmatrix}$ where B_1 has b columns, C_1 has b columns
	$C_1 := AB_1 + C_1$
	$\left(B_L \middle B_R\right) \leftarrow \left(B_0 \middle B_1 \middle B_2\right), \left(C_L \middle C_R\right) \leftarrow \left(C_0 \middle C_1 \middle C_2\right)$
	endwhile

Algorithm:
$$[C] := \text{SYMM_LU_BLK_VAR1}(A, B, C)$$
 $B \to \begin{pmatrix} B_L \middle| B_R \end{pmatrix}$, $C \to \begin{pmatrix} C_L \middle| C_R \end{pmatrix}$

where B_L has 0 columns, C_L has 0 columns

while $n(B_L) < n(B)$ do

Determine block size b
 $\begin{pmatrix} B_L \middle| B_R \end{pmatrix} \to \begin{pmatrix} B_0 \middle| B_1 \middle| B_2 \end{pmatrix}$, $\begin{pmatrix} C_L \middle| C_R \end{pmatrix} \to \begin{pmatrix} C_0 \middle| C_1 \middle| C_2 \end{pmatrix}$

where B_1 has b columns, C_1 has b columns

 $C_1 := AB_1 + C_1$
 $\begin{pmatrix} B_L \middle| B_R \end{pmatrix} \leftarrow \begin{pmatrix} B_0 \middle| B_1 \middle| B_2 \end{pmatrix}$, $\begin{pmatrix} C_L \middle| C_R \end{pmatrix} \leftarrow \begin{pmatrix} C_0 \middle| C_1 \middle| C_2 \end{pmatrix}$

endwhile