

Step	Algorithm:
1a	
4	where
2	
3	while do
2,3	\wedge
5a	where
6	
8	
5b	
7	
2	
	endwhile
2,3	$\wedge \neg(\quad)$
1b	

Step	Algorithm: $[C] := \text{SYR2K_UNB_VAR5}(A, B, C)$
1a	$C = \widehat{C}$
4	$A \rightarrow \left(A_L \middle A_R \right), B \rightarrow \left(B_L \middle B_R \right)$ where A_L has 0 columns, B_L has 0 columns
2	$C = A_L B_L^T + B_L A_L^T + \widehat{C}$
3	while $n(A_L) < n(A)$ do
2,3	$C = A_L B_L^T + B_L A_L^T + \widehat{C} \wedge n(A_L) < n(A)$
5a	$\left(A_L \middle A_R \right) \rightarrow \left(A_0 \middle a_1 \middle A_2 \right), \left(B_L \middle B_R \right) \rightarrow \left(B_0 \middle b_1 \middle B_2 \right)$ where a_1 has 1 column, b_1 has 1 column
6	$C = A_0 B_0^T + B_0 A_0^T + \widehat{C}$
8	$C := C + a_1 b_1^T + b_1 a_1^T$
5b	$\left(A_L \middle A_R \right) \leftarrow \left(A_0 \middle a_1 \middle A_2 \right), \left(B_L \middle B_R \right) \leftarrow \left(B_0 \middle b_1 \middle B_2 \right)$
7	$C = A_0 B_0^T + B_0 A_0^T + a_1 b_1^T + b_1 a_1^T + \widehat{C}$
2	$C = A_L B_L^T + B_L A_L^T + \widehat{C}$
	endwhile
2,3	$C = A_L B_L^T + B_L A_L^T + \widehat{C} \wedge \neg(n(A_L) < n(A))$
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