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

Step	Algorithm: $[C] := \text{SYR2K\_UNB\_VAR6}(A, B, C)$
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_R has 0 columns, B_R has 0 columns
2	$C = A_R B_R^T + B_R A_R^T + \widehat{C}$
3	while $n(A_R) < n(A)$ do
2,3	$C = A_R B_R^T + B_R A_R^T + \widehat{C} \wedge n(A_R) < n(A)$
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	$C = A_2 B_2^T + B_2 A_2^T + \widehat{C}$
8	$C := a_1 b_1^T + b_1 a_1^T + C$
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	$C = A_2 B_2^T + B_2 A_2^T + a_1 b_1^T + b_1 a_1^T + \widehat{C}$
2	$C = A_R B_R^T + B_R A_R^T + \widehat{C}$
	endwhile
2,3	$C = A_R B_R^T + B_R A_R^T + \widehat{C} \wedge \neg(n(A_R) < n(A))$
1b	$[C] = \text{syr2k}(A, B, \widehat{C})$

Algorithm: $[C] := \text{SYR2K\_UNB\_VAR6}(A, B, C)$

$A \rightarrow \left(A_L \,\middle\|\, A_R \right)$, $B \rightarrow \left(B_L \,\middle\|\, B_R \right)$
where A_R has 0 columns, B_R has 0 columns
while $n(A_R) < n(A)$ do
$\left(A_L \,\middle\|\, A_R \right) \rightarrow \left(A_0 \,\middle\|\, a_1 \,\middle\|\, A_2 \right)$, $\left(B_L \,\middle\|\, B_R \right) \rightarrow \left(B_0 \,\middle\|\, b_1 \,\middle\|\, B_2 \right)$
where a_1 has 1 column, b_1 has 1 column

$C := a_1 b_1^T + b_1 a_1^T + C$

$\left(A_L \,\middle\|\, A_R \right) \leftarrow \left(A_0 \,\middle\|\, a_1 \,\middle\|\, A_2 \right)$, $\left(B_L \,\middle\|\, B_R \right) \leftarrow \left(B_0 \,\middle\|\, b_1 \,\middle\|\, B_2 \right)$
endwhile

Step	Algorithm: $[C] := \text{SYR2K\_UNB\_VAR6}(A, B, C)$
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Step	Algorithm: $[C] := \text{SYR2K\_UNB\_VAR6}(A, B, C)$
1a	$C = \widehat{C}$
4	where
2	$C = A_R B_R^T + B_R A_R^T + \widehat{C}$
3	while do
2,3	$C = A_R B_R^T + B_R A_R^T + \widehat{C} \wedge$
5a	where
6	
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5b	
7	
2	$C = A_R B_R^T + B_R A_R^T + \widehat{C}$
	endwhile
2	$C = A_R B_R^T + B_R A_R^T + \widehat{C} \wedge \neg($ $)$
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3	while $n(A_R) < n(A)$ do
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	endwhile
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	endwhile

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