Step	Algorithm: $C = AB^T + BA^T + C$
1a	${C = \widehat{C}}$
4	$A \rightarrow \left(\frac{A_T}{A_B}\right), B \rightarrow \left(\frac{B_T}{B_B}\right), C \rightarrow \left(\frac{C_{TL}}{C_{BL}}\right)$ where A_T has 0 rows, B_T has 0 rows, C_{TL} is 0×0
2	$\left\{ \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right)$
3	while $m(C_{TL}) < m(C)$ do
2,3	$ \left\{ \begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) \land m(C_{TL}) < m(C) $
5a	$ \left(\frac{A_T}{A_B}\right) \to \left(\frac{A_0}{a_1^T}\right), \left(\frac{B_T}{B_B}\right) \to \left(\frac{B_0}{b_1^T}\right), \left(\frac{C_{TL}}{C_{BL}}\right) \to \left(\frac{C_{00}}{c_{10}}\right) \times \begin{pmatrix} \frac{C_{00}}{c_{10}} & * & * \\ C_{20} & c_{21} & C_{22} \end{pmatrix} $ where a_1 has 1 row, b_1 has 1 row, γ_{11} is 1 × 1
6	$ \begin{cases} \begin{pmatrix} C_{00} & c_{01} & C_{02} \\ c_{10}^T & \gamma_{11} & c_{12}^T \\ C_{20} & c_{21} & C_{22} \end{pmatrix} = \begin{pmatrix} A_0 B_0^T + B_0 A_0^T + \hat{C}_{00} & * & * \\ a_1^T B_0^T + \hat{c}_{10}^T & \widehat{\gamma}_{11} & * \\ A_2 B_0^T + \widehat{C}_{20} & \widehat{c}_{21} & \widehat{C}_{22} \end{pmatrix} $
8	$ \gamma_{11} := a_1^T (b_1^T)^T + b_1^T (a_1^T)^T + \gamma_{11} c_{10}^T := b_1^T A_0^T + c_{10}^T c_{21} := A_2 (b_1^T)^T + c_{21} $
7	$ \left\{ \begin{pmatrix} C_{00} & c_{01} & C_{02} \\ c_{10}^T & \gamma_{11} & c_{12}^T \\ C_{20} & c_{21} & C_{22} \end{pmatrix} = \begin{pmatrix} A_0 B_0^T + B_0 A_0^T + \widehat{C}_{00} & * & * \\ a_1 B_0^T + b_1^T A_0^T + \widehat{c}_{10}^T & a_1^T (b_1^T)^T + b_1^T (a_1^T)^T + \widehat{\gamma}_{11} & * \\ A_2 B_0^T + \widehat{C}_{20} & A_2 (b_1^T)^T + \widehat{c}_{21} & \widehat{C}_{22} \end{pmatrix} $
5b	$\langle A_0 \rangle \langle B_0 \rangle \langle C_{00} * * \rangle$
2	$ \left\{ \begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) $
	endwhile
2,3	$\left\{ \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) \land \neg (m(C_{TL}) < m(C))$
1b	$\{C = AB^T + BA^T + \widehat{C} $

Step	Algorithm: $C = AB^T + BA^T + C$
1a	{
4	
	where
2	
∠	
3	while do
0.0	
2,3	^
-	
5a	
	where
6	{
8	
7	{
5b	
2	
	endwhile
2,3	
1 h	
1b	{

Step	Algorithm: $C = AB^T + BA^T + C$
1a	$\{C = \widehat{C}\}$
4	where
2	
3	while do
2,3	}
5a	where
6	
8	
7	
5b	
2	
	endwhile
2,3	$\left. \begin{array}{c} \\ \\ \\ \end{array} \right. $
1b	$\{C = AB^T + BA^T + \widehat{C} $

Step	Algorithm: $C = AB^T + BA^T + C$
1a	$\{C = \widehat{C}$
4	where
2	$\left\{ \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right)$
3	while do
2,3	$\left\{ \begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) \wedge \right.$
5a	where
6	
8	
7	
5b	
2	$\left\{ \begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right)$
	endwhile
2,3	$ \left\{ \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) \land \neg () $
1b	$\left\{ C = AB^T + BA^T + \widehat{C} \right\}$

Step	Algorithm: $C = AB^T + BA^T + C$
1a	$\{C = \widehat{C}$
4	where
2	$ \left\{ \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) $
3	while $m(C_{TL}) < m(C)$ do
2,3	$\left\{ \begin{array}{c c} \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) \wedge m(C_{TL}) < m(C) \end{array} \right\}$
5a	where
6	
8	
7	
5b	
2	$\left\{ \begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right)$
	endwhile
2,3	$ \left\{ \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) \land \neg (m(C_{TL}) < m(C)) $
1b	$\{C = AB^T + BA^T + \widehat{C} $

Step	Algorithm: $C = AB^T + BA^T + C$	
1a		
	$\{C = \widehat{C} \\ A \to \left(\frac{A_T}{A_B}\right), B \to \left(\frac{B_T}{B_B}\right), C \to \left(\frac{C_{TL}}{C_{BL}}\right) \\ \text{where } A_T \text{ has } 0 \text{ rows}, B_T \text{ has } 0 \text{ rows}, C_{TL} \text{ is } 0 \times 0$	
2	$\left\{ \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right)$	
3	while $m(C_{TL}) < m(C)$ do	
2,3	$\left\{ \begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) \wedge m(C_{TL}) < m(C)$	
5a	where	
6		
8		
7		
5b		
2	$ \left\{ \begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) $	
	endwhile	
2,3	$ \left\{ \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) \land \neg (m(C_{TL}) < m(C)) $	$\left. \begin{array}{c} \end{array} \right\}$
1b	$\{C = AB^T + BA^T + \widehat{C}$	}

Step	Algorithm: $C = AB^T + BA^T + C$	
1a	$\{C=\widehat{C}$	}
4	$A o \left(\frac{A_T}{A_B}\right), B o \left(\frac{B_T}{B_B}\right), C o \left(\frac{C_{TL}}{C_{BL}}\right)$ where A_T has 0 rows, B_T has 0 rows, C_{TL} is $0 imes 0$	
2	$ \left\{ \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) $	$\left. \begin{array}{c} \\ \end{array} \right\}$
3	while $m(C_{TL}) < m(C)$ do	
2,3	$ \left\{ \begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) \wedge m(C_{TL}) < m(C) $	igg
5a	$ \begin{pmatrix} A_T \\ A_B \end{pmatrix} \rightarrow \begin{pmatrix} A_0 \\ a_1^T \\ A_2 \end{pmatrix}, \begin{pmatrix} B_T \\ B_B \end{pmatrix} \rightarrow \begin{pmatrix} B_0 \\ b_1^T \\ B_2 \end{pmatrix}, \begin{pmatrix} C_{TL} & C_{TR} \\ C_{BL} & C_{BR} \end{pmatrix} \rightarrow \begin{pmatrix} C_{00} & * & * \\ c_{10} & \gamma_{11} & * \\ C_{20} & c_{21} & C_{22} \end{pmatrix} $ where a_1 has 1 row, b_1 has 1 row, γ_{11} is 1×1	
6		$\left. \right\}$
8		
7		$oxed{}$
5b	$\begin{pmatrix} A_2 \end{pmatrix} \begin{pmatrix} B_2 \end{pmatrix} \begin{pmatrix} B_2 \end{pmatrix} \begin{pmatrix} B_1 & B_1 \end{pmatrix} \begin{pmatrix} C_{20} & c_{21} & C_{22} \end{pmatrix}$	
2	$\left\{ \begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right)$	igg
	endwhile	
2,3	$\left\{ \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) \land \neg (m(C_{TL}) < m(C))$	$\left.\begin{array}{c} \end{array}\right\}$
1b	$\{C = AB^T + BA^T + \widehat{C}$	}

Step	Algorithm: $C = AB^T + BA^T + C$	
1a	$\{C=\widehat{C}$	}
4	$A \to \left(\frac{A_T}{A_B}\right), B \to \left(\frac{B_T}{B_B}\right), C \to \left(\frac{C_{TL}}{C_{BL}}\right)$ where A_T has 0 rows, B_T has 0 rows, C_{TL} is 0×0	
2	$ \left\{ \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \hat{C}_{TL} & * \\ \hline A_B B_T^T + \hat{C}_{BL} & \hat{C}_{BR} \end{array} \right) $	
3	while $m(C_{TL}) < m(C)$ do	
2,3	$\left\{ \begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) \wedge m(C_{TL}) < m(C)$	
5a	$ \left(\frac{A_T}{A_B}\right) \to \left(\frac{A_0}{a_1^T}\right), \left(\frac{B_T}{B_B}\right) \to \left(\frac{B_0}{b_1^T}\right), \left(\frac{C_{TL}}{C_{BL}}\right) \to \left(\frac{C_{00}}{c_{RR}}\right) \to \left(\frac{C_{00}}{c_{10}}\right) \times \begin{pmatrix} c_{00} & * & * \\ c_{00} & * & * \\ c_{00} & c_{01} & c_{01} \end{pmatrix} $ where a_1 has 1 row, b_1 has 1 row, γ_{11} is 1 × 1	
6	$ \begin{cases} \begin{pmatrix} C_{00} & c_{01} & C_{02} \\ c_{10}^T & \gamma_{11} & c_{12}^T \\ C_{20} & c_{21} & C_{22} \end{pmatrix} = \begin{pmatrix} A_0 B_0^T + B_0 A_0^T + \hat{C}_{00} & * & * \\ a_1^T B_0^T + \hat{c}_{10}^T & \widehat{\gamma}_{11} & * \\ A_2 B_0^T + \widehat{C}_{20} & \widehat{c}_{21} & \widehat{C}_{22} \end{pmatrix} $	
8		
7		$\left. \right\}$
5b	$ \left(\frac{A_T}{A_B}\right) \leftarrow \left(\frac{A_0}{a_1^T}\right), \left(\frac{B_T}{B_B}\right) \leftarrow \left(\frac{B_0}{b_1^T}\right), \left(\frac{C_{TL} C_{TR}}{C_{BL} C_{BR}}\right) \leftarrow \left(\frac{C_{00} * * *}{c_{10}^T \gamma_{11}} * \frac{*}{c_{20}^T c_{21}}\right) $	
2	$ \left\{ \begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) $	
	endwhile	
2,3	$ \left\{ \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) \land \neg (m(C_{TL}) < m(C)) $	
1b	$\{C = AB^T + BA^T + \widehat{C}$	}

Step	Algorithm: $C = AB^T + BA^T + C$	
1a	$\{C=\widehat{C}$	}
4	$A o \left(\frac{A_T}{A_B}\right), B o \left(\frac{B_T}{B_B}\right), C o \left(\frac{C_{TL}}{C_{BL}}\right)$ where A_T has 0 rows, B_T has 0 rows, C_{TL} is $0 imes 0$	
2	$ \left\{ \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) $	$ognum_{i}$
3	while $m(C_{TL}) < m(C)$ do	
2,3	$ \left\{ \begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) \wedge m(C_{TL}) < m(C) $	igg
5a	where a_1 has 1 row, b_1 has 1 row, γ_{11} is 1×1	
6	$ \begin{cases} \begin{pmatrix} C_{00} & c_{01} & C_{02} \\ c_{10}^T & \gamma_{11} & c_{12}^T \\ C_{20} & c_{21} & C_{22} \end{pmatrix} = \begin{pmatrix} A_0 B_0^T + B_0 A_0^T + \hat{C}_{00} & * & * \\ a_1^T B_0^T + \hat{c}_{10}^T & \widehat{\gamma}_{11} & * \\ A_2 B_0^T + \hat{C}_{20} & \widehat{c}_{21} & \widehat{C}_{22} \end{pmatrix} $	$\left. \begin{array}{c} \\ \end{array} \right\}$
8		
7	$ \begin{cases} \begin{pmatrix} C_{00} & c_{01} & C_{02} \\ c_{10}^T & \gamma_{11} & c_{12}^T \\ C_{20} & c_{21} & C_{22} \end{pmatrix} = \begin{pmatrix} A_0 B_0^T + B_0 A_0^T + \widehat{C}_{00} & * & * \\ a_1 B_0^T + b_1^T A_0^T + \widehat{c}_{10}^T & a_1^T (b_1^T)^T + b_1^T (a_1^T)^T + \widehat{\gamma}_{11} & * \\ A_2 B_0^T + \widehat{C}_{20} & A_2 (b_1^T)^T + \widehat{c}_{21} & \widehat{C}_{22} \end{pmatrix} $	$\left. \begin{array}{c} - \\ \end{array} \right\}$
5b	$A_0 \setminus A_0 $	
2	$ \left\{ \begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) $	igg
	endwhile	
2,3	$\left\{ \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) \land \neg (m(C_{TL}) < m(C))$	$\left. \begin{array}{c} \end{array} \right\}$
1b	$\{C = AB^T + BA^T + \widehat{C}$	}

```
Algorithm: C = AB^T + BA^T + C
Step
                   \{C = \widehat{C}
   1a
                 A \to \left(\frac{A_T}{A_B}\right), B \to \left(\frac{B_T}{B_B}\right), C \to \left(\frac{C_{TL}}{C_{BL}}\right)
    4
    2
                   while m(C_{TL}) < m(C) do
    3
                                        2,3

\left(\begin{array}{c} A_T \\ \hline A_B \end{array}\right) \to \left(\begin{array}{c} A_0 \\ \hline a_1^T \\ A_2 \end{array}\right), \left(\begin{array}{c} B_T \\ \hline B_B \end{array}\right) \to \left(\begin{array}{c|c} B_0 \\ \hline b_1^T \\ B_2 \end{array}\right), \left(\begin{array}{c|c} C_{TL} & C_{TR} \\ \hline C_{BL} & C_{BR} \end{array}\right) \to \left(\begin{array}{c|c} C_{00} & * & * \\ \hline c_{10}^T & \gamma_{11} & * \\ \hline c_{20} & c_{21} & C_{22} \end{array}\right)

   5a
                                    where a_1 has 1 row, b_1 has 1 row, \gamma_{11} is 1 \times 1
                                     \begin{pmatrix} C_{00} & c_{01} & C_{02} \\ c_{10}^T & \gamma_{11} & c_{12}^T \\ C_{20} & c_{21} & C_{22} \end{pmatrix} = \begin{pmatrix} A_0 B_0^T + B_0 A_0^T + \widehat{C}_{00} & * & * \\ a_1^T B_0^T + \widehat{c}_{10}^T & \widehat{\gamma}_{11} & * \\ A_2 B_0^T + \widehat{C}_{20} & \widehat{c}_{21} & \widehat{C}_{22} \end{pmatrix}
    6
                              \gamma_{11} := a_1^T (b_1^T)^T + b_1^T (a_1^T)^T + \gamma_{11}
                              c_{10}^T := b_1^T A_0^T + c_{10}^T
    8
                              c_{21} := A_2(b_1^T)^T + c_{21}
                                     \begin{pmatrix} C_{00} & c_{01} & C_{02} \\ c_{10}^T & \gamma_{11} & c_{12}^T \\ C_{20} & c_{21} & C_{22} \end{pmatrix} = \begin{pmatrix} A_0 B_0^T + B_0 A_0^T + \widehat{C}_{00} & * & * \\ a_1 B_0^T + b_1^T A_0^T + \widehat{c}_{10}^T & a_1^T (b_1^T)^T + b_1^T (a_1^T)^T + \widehat{\gamma}_{11} & * \\ A_2 B_0^T + \widehat{C}_{20} & A_2 (b_1^T)^T + \widehat{c}_{21} & \widehat{C}_{22} \end{pmatrix}
    7

\left(\frac{A_T}{A_B}\right) \leftarrow \left(\frac{A_0}{a_1^T}\right), \left(\frac{B_T}{B_B}\right) \leftarrow \left(\frac{B_0}{b_1^T}\right), \left(\frac{C_{TL} C_{TR}}{C_{BL} C_{BR}}\right) \leftarrow \left(\frac{C_{00} * * *}{c_{10}^T \gamma_{11}} * *\right)

  5b
                                           \frac{C_{TL} \mid *}{C_{BL} \mid C_{BR}} = \begin{pmatrix} \frac{A_T B_T^T + B_T A_T^T + \widehat{C}_{TL}}{A_B B_T^T + \widehat{C}_{BL}} \mid \widehat{C}_{BR} \end{pmatrix} 
    2
                   endwhile
                                                                2,3
                   \{C = AB^T + BA^T + \widehat{C}
  1b
```

Algorithm: $C = AB^T + BA^T + C$
$A o \left(\frac{A_T}{A_B}\right), B o \left(\frac{B_T}{B_B}\right), C o \left(\frac{C_{TL}}{C_{BL}}\right)$ where A_T has 0 rows, B_T has 0 rows, C_{TL} is $0 imes 0$
while $m(C_{TL}) < m(C)$ do
$ \left(\frac{A_T}{A_B}\right) \to \left(\frac{A_0}{a_1^T}\right), \left(\frac{B_T}{B_B}\right) \to \left(\frac{B_0}{b_1^T}\right), \left(\frac{C_{TL}}{C_{BL}} \begin{vmatrix} C_{TR} \\ C_{BL} \end{vmatrix} \begin{vmatrix} C_{DR} \\ C_{BR} \end{vmatrix}\right) \to \left(\frac{C_{00}}{c_{10}^T} \begin{vmatrix} * & * \\ C_{20} \end{vmatrix} \begin{vmatrix} * & * \\ C_{21} \end{vmatrix} \begin{vmatrix} * & * \\ C_{22} \end{vmatrix}\right) $ where a_1 has 1 row, b_1 has 1 row, γ_{11} is 1 × 1
$ \gamma_{11} := a_1^T (b_1^T)^T + b_1^T (a_1^T)^T + \gamma_{11} c_{10}^T := b_1^T A_0^T + c_{10}^T c_{21} := A_2 (b_1^T)^T + c_{21} $
$ \left(\frac{A_T}{A_B}\right) \leftarrow \left(\frac{A_0}{a_1^T}\right), \left(\frac{B_T}{B_B}\right) \leftarrow \left(\frac{B_0}{b_1^T}\right), \left(\frac{C_{TL} C_{TR}}{C_{BL} C_{BR}}\right) \leftarrow \left(\frac{C_{00} * * *}{c_{10}^T \gamma_{11} * *} \frac{*}{C_{20} c_{21} C_{22}}\right) $
endwhile

Algorithm: $C = AB^T + BA^T + C$

$$A o \left(\frac{A_T}{A_B}\right), B o \left(\frac{B_T}{B_B}\right), C o \left(\frac{C_{TL}}{C_{BL}}\right)$$

where A_T has 0 rows, B_T has 0 rows, C_{TL} is 0×0

while $m(C_{TL}) < m(C)$ do

$$\left(\frac{A_T}{A_B}\right) \to \left(\frac{A_0}{a_1^T}\right), \left(\frac{B_T}{B_B}\right) \to \left(\frac{B_0}{b_1^T}\right), \left(\frac{C_{TL} \mid C_{TR}}{C_{BL} \mid C_{BR}}\right) \to \left(\frac{C_{00} \mid * \quad *}{c_{10}^T \mid \gamma_{11} \quad *}\right)$$

where a_1 has 1 row, b_1 has 1 row, γ_{11} is 1×1

$$\gamma_{11} := a_1^T (b_1^T)^T + b_1^T (a_1^T)^T + \gamma_{11}$$

$$c_{10}^T := b_1^T A_0^T + c_{10}^T$$

$$c_{21} := A_2(b_1^T)^T + c_{21}$$

$$\left(\frac{A_{T}}{A_{B}}\right) \leftarrow \left(\frac{A_{0}}{a_{1}^{T}}\right), \left(\frac{B_{T}}{B_{B}}\right) \leftarrow \left(\frac{B_{0}}{b_{1}^{T}}\right), \left(\frac{C_{TL} \mid C_{TR}}{C_{BL} \mid C_{BR}}\right) \leftarrow \left(\frac{C_{00} * * *}{c_{10}^{T} \gamma_{11}} * \frac{*}{C_{20} c_{21} \mid C_{22}}\right)$$

endwhile