Step	Algorithm: $C = AB^T + BA^T + \widehat{C}$
1a	${C = \hat{C}}$
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	$\left\{ \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right)$
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 \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}} \begin{vmatrix} C_{TR} \\ C_{BL} \end{vmatrix} \begin{vmatrix} C_{TR} \\ C_{BR} \end{vmatrix}\right) \to \left(\frac{C_{00}}{c_{01}} \begin{vmatrix} c_{01} & C_{02} \\ C_{10} & c_{11} & c_{12} \\ C_{20} & c_{21} & C_{22} \end{vmatrix}\right) $ 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} & \hat{c}_{01} & \hat{C}_{02} \\ \hat{c}_{10}^T & \hat{\gamma}_{11} & \hat{c}_{12}^T \\ \hat{C}_{20} & \hat{c}_{21} & \hat{C}_{22} \end{pmatrix} $
8	$c_{01} = A_0(b_1^T)^T + B_0(a_1^T)^T + c_{01}$ $\gamma_{11} = a_1^T(b_1^T)^T + b_1^T(a_1^T)^T + \gamma_{11}$ $c_{10}^T = a_1 B_0^T + b_1^T A_0^T + c_{10}^T$
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_0 (b_1^T)^T + B_0 (a_1^T)^T + \widehat{c}_{01} & \widehat{C}_{02} \\ 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} & \widehat{c}_{12}^T \\ \widehat{C}_{20} & \widehat{c}_{21} & \widehat{C}_{22} \end{pmatrix} $
5b	$\begin{pmatrix} A_0 \end{pmatrix} \begin{pmatrix} A_0 \end{pmatrix} \begin{pmatrix} B_0 \end{pmatrix} \begin{pmatrix} C_{00} & C_{01} & C_{02} \end{pmatrix}$
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 \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 \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: $C = AB^T + BA^T + \widehat{C}$
1a	{
4	
	where
2	
∠	
3	while do
0.0	
2,3	^
_	
5a	
	where
6	{
	J
8	
7	{
	J
5b	
2	{
	andwhile
	endwhile
2,3	$\land \neg ($
1b	{

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

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

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

Step	Algorithm: $C = AB^T + BA^T + \widehat{C}$	
1a	$\{C=\widehat{C}$	}
4	$A o \left(\frac{A_T}{A_B}\right), B o \left(\frac{B_T}{B_B}\right), C o \left(\frac{C_{TL} C_{TR}}{C_{BL} C_{BR}}\right)$ where A_T has 0 rows, B_T has 0 rows, C_{TL} is $0 imes 0$	
2	$\left\{ \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right)$	
3	while $m(C_{TL}) < m(C)$ do	
2,3	$\left\{ \begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right\} = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) \wedge m(C_{TL}) < m(C)$	
5a	$ \left(\begin{array}{c} A_T \\ A_B \end{array}\right) \rightarrow \left(\begin{array}{c} A_0 \\ a_1^T \\ A_2 \end{array}\right), \left(\begin{array}{c} B_T \\ B_B \end{array}\right) \rightarrow \left(\begin{array}{c} B_0 \\ b_1^T \\ B_2 \end{array}\right), \left(\begin{array}{c c} C_{TL} & C_{TR} \\ C_{BL} & C_{BR} \end{array}\right) \rightarrow \left(\begin{array}{c c} C_{00} & c_{01} & C_{02} \\ \hline c_{10}^T & \gamma_{11} & c_{12}^T \\ C_{20} & c_{21} & C_{22} \end{array}\right) $ 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} & \hat{c}_{01} & \hat{C}_{02} \\ \hat{c}_{10}^T & \hat{\gamma}_{11} & \hat{c}_{12}^T \\ \hat{C}_{20} & \hat{c}_{21} & \hat{C}_{22} \end{pmatrix} $	
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_0 (b_1^T)^T + B_0 (a_1^T)^T + \widehat{c}_{01} & \widehat{C}_{02} \\ 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} & \widehat{c}_{12}^T \\ \widehat{C}_{20} & \widehat{c}_{21} & \widehat{C}_{22} \end{pmatrix} $	
5b	$\left(\frac{A_T}{A_B}\right) \leftarrow \left(\frac{A_0}{a_1^T}\right), \left(\frac{B_T}{B_B}\right) \leftarrow \left(\frac{B_0}{b_1^T}\right), \left(\frac{C_{TL} C_{TR}}{C_{BL} C_{BR}}\right) \leftarrow \left(\frac{C_{00} c_{01} C_{02}}{c_{10}^T c_{12}^T}\right)$	
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 \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) $	
	endwhile	
2,3	$\left\{ \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) \land \neg (m(C_{TL}) < m(C))$	
1b	$\{C = AB^T + BA^T + \widehat{C}$	}

Step	Algorithm: $C = AB^T + BA^T + \hat{C}$	
1a	$\{C=\widehat{C}$	}
4	$A o \left(\frac{A_T}{A_B}\right), B o \left(\frac{B_T}{B_B}\right), C o \left(\frac{C_{TL} C_{TR}}{C_{BL} C_{BR}}\right)$ where A_T has 0 rows, B_T has 0 rows, C_{TL} is $0 imes 0$	
2	$\left\{ \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right)$	
3	while $m(C_{TL}) < m(C)$ do	
2,3	$\left\{ \begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) \wedge m(C_{TL}) < m(C)$	$\bigg\}$
5a	$ \left(\begin{array}{c} A_T \\ \overline{A_B} \end{array}\right) \to \left(\begin{array}{c} A_0 \\ \overline{a_1^T} \\ A_2 \end{array}\right), \left(\begin{array}{c} B_T \\ \overline{B_B} \end{array}\right) \to \left(\begin{array}{c} B_0 \\ \overline{b_1^T} \\ \overline{B_2} \end{array}\right), \left(\begin{array}{c c} C_{TL} & C_{TR} \\ \overline{C_{BL}} & C_{BR} \end{array}\right) \to \left(\begin{array}{c c} C_{00} & c_{01} & C_{02} \\ \hline c_{10}^T & \gamma_{11} & c_{12}^T \\ \overline{C_{20}} & c_{21} & C_{22} \end{array}\right) $ 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} & \hat{c}_{01} & \hat{C}_{02} \\ \hat{c}_{10}^T & \hat{\gamma}_{11} & \hat{c}_{12}^T \\ \hat{C}_{20} & \hat{c}_{21} & \hat{C}_{22} \end{pmatrix} $	
8	$c_{01} = A_0(b_1^T)^T + B_0(a_1^T)^T + c_{01}$ $\gamma_{11} = a_1^T(b_1^T)^T + b_1^T(a_1^T)^T + \gamma_{11}$ $c_{10}^T = a_1 B_0^T + b_1^T A_0^T + c_{10}^T$	
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_0 (b_1^T)^T + B_0 (a_1^T)^T + \widehat{c}_{01} & \widehat{C}_{02} \\ 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} & \widehat{c}_{12}^T \\ \widehat{C}_{20} & \widehat{c}_{21} & \widehat{C}_{22} \end{pmatrix} $	
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_{01} C_{02}}{c_{10}^T \gamma_{11} c_{12}^T}\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 \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) $	$\bigg\}$
	endwhile	
2,3	$\left\{ \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) \land \neg (m(C_{TL}) < m(C))$	
1b	$\{C = AB^T + BA^T + \widehat{C}$	}

Algorithm: $C = AB^T + BA^T + \hat{C}$
$A o \left(\frac{A_T}{A_B}\right), B o \left(\frac{B_T}{B_B}\right), C o \left(\frac{C_{TL} C_{TR}}{C_{BL} C_{BR}}\right)$ 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(\begin{array}{c} A_T \\ A_B \end{array}\right) \rightarrow \left(\begin{array}{c} A_0 \\ a_1^T \\ A_2 \end{array}\right), \left(\begin{array}{c} B_T \\ B_B \end{array}\right) \rightarrow \left(\begin{array}{c} B_0 \\ b_1^T \\ B_2 \end{array}\right), \left(\begin{array}{c c} C_{TL} & C_{TR} \\ C_{BL} & C_{BR} \end{array}\right) \rightarrow \left(\begin{array}{c c} C_{00} & c_{01} & C_{02} \\ \hline c_{10}^T & \gamma_{11} & c_{12}^T \\ C_{20} & c_{21} & C_{22} \end{array}\right) $ where a_1 has 1 row, b_1 has 1 row, γ_{11} is 1 × 1
$c_{01} = A_0 (b_1^T)^T + B_0 (a_1^T)^T + c_{01}$ $\gamma_{11} = a_1^T (b_1^T)^T + b_1^T (a_1^T)^T + \gamma_{11}$ $c_{10}^T = a_1 B_0^T + b_1^T A_0^T + c_{10}^T$
$ \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_{01} C_{02}}{c_{10}^T \gamma_{11} c_{12}^T}\right) \\ \frac{c_{TL} C_{TR} C_{TR}}{C_{DL} C_{DR}} \leftarrow \left(\frac{C_{00} c_{01} C_{02}}{C_{20} c_{21} C_{22}}\right) $
endwhile

Algorithm: $C = AB^T + BA^T + \widehat{C}$

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

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

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

$$\left(\frac{A_T}{A_B}\right) \to \left(\frac{A_0}{a_1^T}\right), \left(\frac{B_T}{B_B}\right) \to \left(\frac{B_0}{b_1^T}\right), \left(\frac{C_{TL} | C_{TR}}{C_{BL} | C_{BR}}\right) \to \left(\frac{C_{00} | c_{01} | C_{02}}{c_{10}^T | c_{12}^T}\right)$$

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

$$c_{01} = A_0(b_1^T)^T + B_0(a_1^T)^T + c_{01}$$

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

$$c_{10}^T = a_1 B_0^T + b_1^T A_0^T + c_{10}^T$$

$$\left(\frac{A_T}{A_B}\right) \leftarrow \left(\frac{A_0}{a_1^T}\right), \left(\frac{B_T}{B_B}\right) \leftarrow \left(\frac{B_0}{b_1^T}\right), \left(\frac{C_{TL} | C_{TR}}{C_{BL} | C_{BR}}\right) \leftarrow \left(\frac{C_{00} | c_{01} | C_{02}}{c_{10}^T | \gamma_{11} | c_{12}^T}\right)$$

endwhile