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

Step	Algorithm: $C = AB^T + BA^T + \widehat{C}$
1a	{ }
4	where
2	{ }
3	while do
2,3	{ $\wedge$ }
5a	where
6	{ }
8	
7	{ }
5b	
2	{ }
	endwhile
2,3	{ $\wedge \neg ($ $)$ }
1b	{ }

Step	Algorithm: $C = AB^T + BA^T + \widehat{C}$
1a	$\{ C = \widehat{C}$ }
4	where
2	
3	while do
2,3	$\wedge$
5a	where
6	
8	
7	
5b	
2	
	endwhile
2,3	$\wedge \neg ($ $)$
1b	$\{ C = AB^T + BA^T + \widehat{C}$ }

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

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

Step	Algorithm: $C = AB^T + BA^T + \widehat{C}$
1a	$\{C = \widehat{C}$ $\}$
4	$A \to \left(\dfrac{A_T}{A_B}\right), B \to \left(\dfrac{B_T}{B_B}\right), C \to \left(\begin{array}{c\|c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array}\right)$ where A_T has 0 rows, B_T has 0 rows, C_{TL} is 0×0
2	$\left\{ \left(\begin{array}{c\|c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array}\right) = \left(\begin{array}{c\|c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & \widehat{C}_{BR} \end{array}\right) \right\}$
3	while $m(C_{TL}) < m(C)$ do
2,3	$\left\{ \left(\begin{array}{c\|c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array}\right) = \left(\begin{array}{c\|c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & \widehat{C}_{BR} \end{array}\right) \wedge m(C_{TL}) < m(C) \right\}$
5a	
	where
6	$\left\{ \right\}$
8	
7	$\left\{ \right\}$
5b	
2	$\left\{ \left(\begin{array}{c\|c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array}\right) = \left(\begin{array}{c\|c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & \widehat{C}_{BR} \end{array}\right) \right\}$
	endwhile
2,3	$\left\{ \left(\begin{array}{c\|c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array}\right) = \left(\begin{array}{c\|c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & \widehat{C}_{BR} \end{array}\right) \wedge \neg(m(C_{TL}) < m(C)) \right\}$
1b	$\{C = AB^T + BA^T + \widehat{C}$ $\}$

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

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

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

Step	Algorithm: $C = AB^T + BA^T + \widehat{C}$
1a	$\{ C = \widehat{C} \hspace{12cm} \}$
4	$A \to \left(\dfrac{A_T}{A_B} \right) , B \to \left(\dfrac{B_T}{B_B} \right) , C \to \left(\begin{array}{c|c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right)$ where A_T has 0 rows, B_T has 0 rows, C_{TL} is 0×0
2	$\left\{ \left(\begin{array}{c|c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c|c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) \right\}$
3	while $m(C_{TL}) < m(C)$ do
2,3	$\left\{ \left(\begin{array}{c|c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c|c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) \wedge m(C_{TL}) < m(C) \right\}$
5a	$\left(\dfrac{A_T}{A_B} \right) \to \left(\dfrac{A_0}{\dfrac{a_1^T}{A_2}} \right) , \left(\dfrac{B_T}{B_B} \right) \to \left(\dfrac{B_0}{\dfrac{b_1^T}{B_2}} \right) , \left(\begin{array}{c|c} C_{TL} & C_{TR} \\ \hline C_{BL} & C_{BR} \end{array} \right) \to \left(\begin{array}{c|cc} C_{00} & * & * \\ \hline c_{10}^T & \gamma_{11} & * \\ C_{20} & c_{21} & C_{22} \end{array} \right)$ where a_1 has 1 row, b_1 has 1 row, γ_{11} is 1×1
6	$\left\{ \left(\begin{array}{ccc} C_{00} & * & * \\ c_{10}^T & \gamma_{11} & * \\ C_{20} & c_{21} & C_{22} \end{array} \right) = \left(\begin{array}{ccc} A_0 B_0^T + B_0 A_0^T + \widehat{C}_{00} & * & * \\ \widehat{c}_{10}^T & \widehat{\gamma}_{11} & * \\ \widehat{C}_{20} & \widehat{c}_{21} & \widehat{C}_{22} \end{array} \right) \right\}$
8	$\gamma_{11} := a_1^T (b_1^T)^T + b_1^T (a_1^T)^T + \gamma_{11}$ $c_{10}^T := a_1^T B_0^T + b_1^T A_0^T + c_{10}^T$
7	$\left\{ \left(\begin{array}{ccc} C_{00} & * & * \\ c_{10}^T & \gamma_{11} & * \\ C_{20} & c_{21} & C_{22} \end{array} \right) = \left(\begin{array}{ccc} A_0 B_0^T + B_0 A_0^T + \widehat{C}_{00} & * & * \\ a_1^T B_0^T + b_1^T A_0^T + \widehat{c}_{10}^T & a_1^T (b_1^T)^T + b_1^T (a_1^T)^T + \widehat{\gamma}_{11} & * \\ \widehat{C}_{20} & \widehat{c}_{21} & \widehat{C}_{22} \end{array} \right) \right\}$
5b	$\left(\dfrac{A_T}{A_B} \right) \leftarrow \left(\dfrac{A_0}{\dfrac{a_1^T}{A_2}} \right) , \left(\dfrac{B_T}{B_B} \right) \leftarrow \left(\dfrac{B_0}{\dfrac{b_1^T}{B_2}} \right) , \left(\begin{array}{c|c} C_{TL} & C_{TR} \\ \hline C_{BL} & C_{BR} \end{array} \right) \leftarrow \left(\begin{array}{cc|c} C_{00} & * & * \\ c_{10}^T & \gamma_{11} & * \\ \hline C_{20} & c_{21} & C_{22} \end{array} \right)$
2	$\left\{ \left(\begin{array}{c|c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c|c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) \right\}$
	endwhile
2,3	$\left\{ \left(\begin{array}{c|c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c|c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) \wedge \neg(m(C_{TL}) < m(C)) \right\}$
1b	$\{ C = AB^T + BA^T + \widehat{C} \hspace{10cm} \}$

	Algorithm: $C = AB^T + BA^T + \widehat{C}$
	$A \to \left(\dfrac{A_T}{A_B} \right)$, $B \to \left(\dfrac{B_T}{B_B} \right)$, $C \to \left(\begin{array}{c\|c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right)$ where A_T has 0 rows, B_T has 0 rows, C_{TL} is 0×0
	while $m(C_{TL}) < m(C)$ do
	$\left(\dfrac{A_T}{A_B} \right) \to \left(\dfrac{\begin{array}{c} A_0 \\ a_1^T \end{array}}{A_2} \right)$, $\left(\dfrac{B_T}{B_B} \right) \to \left(\dfrac{\begin{array}{c} B_0 \\ b_1^T \end{array}}{B_2} \right)$, $\left(\begin{array}{c\|c} C_{TL} & C_{TR} \\ \hline C_{BL} & C_{BR} \end{array} \right) \to \left(\begin{array}{c\|cc} C_{00} & * & * \\ \hline c_{10}^T & \gamma_{11} & * \\ C_{20} & c_{21} & C_{22} \end{array} \right)$ where a_1 has 1 row, b_1 has 1 row, γ_{11} is 1×1
	$\gamma_{11} := a_1^T (b_1^T)^T + b_1^T (a_1^T)^T + \gamma_{11}$ $c_{10}^T := a_1^T B_0^T + b_1^T A_0^T + c_{10}^T$
	$\left(\dfrac{A_T}{A_B} \right) \leftarrow \left(\dfrac{A_0}{\begin{array}{c} a_1^T \\ A_2 \end{array}} \right)$, $\left(\dfrac{B_T}{B_B} \right) \leftarrow \left(\dfrac{B_0}{\begin{array}{c} b_1^T \\ B_2 \end{array}} \right)$, $\left(\begin{array}{c\|c} C_{TL} & C_{TR} \\ \hline C_{BL} & C_{BR} \end{array} \right) \leftarrow \left(\begin{array}{cc\|c} C_{00} & * & * \\ c_{10}^T & \gamma_{11} & * \\ \hline C_{20} & c_{21} & C_{22} \end{array} \right)$
	endwhile

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

$A \rightarrow \left(\dfrac{A_T}{A_B} \right)$, $B \rightarrow \left(\dfrac{B_T}{B_B} \right)$, $C \rightarrow \left(\begin{array}{c|c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right)$

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

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

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

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

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

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

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

endwhile