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	**Determine block size** b $\left(\dfrac{A_T}{A_B}\right) \rightarrow \left(\dfrac{A_0}{\dfrac{a_1^T}{A_2}}\right)$, $\left(\dfrac{B_T}{B_B}\right) \rightarrow \left(\dfrac{B_0}{\dfrac{b_1^T}{B_2}}\right)$, $\left(\begin{array}{c\|c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array}\right) \rightarrow \left(\begin{array}{c\|cc} C_{00} & * & * \\ \hline c_{10}^T & \gamma_{11} & * \\ C_{20} & c_{21} & C_{22} \end{array}\right)$ where A_1 has b rows, B_1 has b rows, C_{11} is $b \times b$
6	$\left\{ \left(\begin{array}{ccc} C_{00} & * & * \\ C_{10}^T & C_{11} & * \\ C_{20} & C_{21} & C_{22} \end{array}\right) = \left(\begin{array}{ccc} A_0 B_0^T + B_0 A_0^T + \widehat{C}_{00} & * & * \\ \widehat{C}_{10}^T & \widehat{C}_{11} & * \\ \widehat{C}_{20} & \widehat{C}_{21} & \widehat{C}_{22} \end{array}\right) \right\}$
8	$C_{11} = A_1^T (B_1^T)^T + B_1^T (A_1^T)^T + C_{11}$ $C_{10}^T = A_1 B_0^T + B_1^T A_0^T + C_{10}^T$
7	$\left\{ \left(\begin{array}{ccc} C_{00} & * & * \\ C_{10}^T & C_{11} & * \\ C_{20} & C_{21} & C_{22} \end{array}\right) = \left(\begin{array}{ccc} A_0 B_0^T + B_0 A_0^T + \widehat{C}_{00} & * & * \\ A_1 B_0^T + B_1^T A_0^T + \widehat{C}_{10}^T & A_1^T (B_1^T)^T + B_1^T (A_1^T)^T + \widehat{C}_{11} & * \\ \widehat{C}_{20} & \widehat{C}_{21} & \widehat{C}_{22} \end{array}\right) \right\}$
5b	$\left(\dfrac{A_T}{A_B}\right) \leftarrow \left(\dfrac{A_0}{\dfrac{a_1^T}{A_2}}\right)$, $\left(\dfrac{B_T}{B_B}\right) \leftarrow \left(\dfrac{B_0}{\dfrac{b_1^T}{B_2}}\right)$, $\left(\begin{array}{c\|c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array}\right) \leftarrow \left(\begin{array}{cc\|c} C_{00} & * & * \\ c_{10}^T & \gamma_{11} & * \\ \hline C_{20} & c_{21} & C_{22} \end{array}\right)$
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	{ }
4	where
2	
3	while do
2,3	$\wedge$
5a	**Determine block size** b 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	**Determine block size** b 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	$\{C = \widehat{C}$ $\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\}$
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 $\qquad\qquad\qquad$ 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	**Determine block size** b
	where
6	$\left\{ \qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad \right\}$
8	
7	$\left\{ \qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad \right\}$
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	$\left\{ \left(\begin{array}{c\|c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c\|c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) \wedge \neg(\qquad\qquad) \right\}$
1b	$\{C = AB^T + BA^T + \widehat{C}$ $\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\}$

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	**Determine block size** b
	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	**Determine block size** b 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	**Determine block size b** $\left(\dfrac{A_T}{A_B}\right) \to \left(\begin{array}{c} A_0 \\ \hline a_1^T \\ \hline A_2 \end{array}\right)$, $\left(\dfrac{B_T}{B_B}\right) \to \left(\begin{array}{c} B_0 \\ \hline b_1^T \\ \hline B_2 \end{array}\right)$, $\left(\begin{array}{c\|c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array}\right) \to \left(\begin{array}{c\|c\|c} C_{00} & * & * \\ \hline c_{10}^T & \gamma_{11} & * \\ \hline C_{20} & c_{21} & C_{22} \end{array}\right)$ where A_1 has b rows, B_1 has b rows, C_{11} is $b \times b$
6	$\left\{ \right\}$
8	
7	$\left\{ \right\}$
5b	$\left(\dfrac{A_T}{A_B}\right) \leftarrow \left(\begin{array}{c} A_0 \\ \hline a_1^T \\ \hline A_2 \end{array}\right)$, $\left(\dfrac{B_T}{B_B}\right) \leftarrow \left(\begin{array}{c} B_0 \\ \hline b_1^T \\ \hline B_2 \end{array}\right)$, $\left(\begin{array}{c\|c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array}\right) \leftarrow \left(\begin{array}{c c\|c} C_{00} & * & * \\ c_{10}^T & \gamma_{11} & * \\ \hline C_{20} & c_{21} & C_{22} \end{array}\right)$
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	**Determine block size** b $\left(\dfrac{A_T}{A_B}\right) \rightarrow \left(\dfrac{A_0}{\dfrac{a_1^T}{A_2}}\right)$, $\left(\dfrac{B_T}{B_B}\right) \rightarrow \left(\dfrac{B_0}{\dfrac{b_1^T}{B_2}}\right)$, $\left(\begin{array}{c\|c} C_{TL} & * \\ \hline C_{BL} & C_{BR}\end{array}\right) \rightarrow \left(\begin{array}{c\|cc} C_{00} & * & * \\ \hline c_{10}^T & \gamma_{11} & * \\ C_{20} & c_{21} & C_{22}\end{array}\right)$ where A_1 has b rows, B_1 has b rows, C_{11} is $b \times b$
6	$\left\{\begin{pmatrix} C_{00} & * & * \\ C_{10}^T & C_{11} & * \\ C_{20} & C_{21} & C_{22}\end{pmatrix} = \begin{pmatrix} A_0 B_0^T + B_0 A_0^T + \widehat{C}_{00} & * & * \\ \widehat{C}_{10}^T & \widehat{C}_{11} & * \\ \widehat{C}_{20} & \widehat{C}_{21} & \widehat{C}_{22}\end{pmatrix}\right\}$
8	
7	$\left\{\right\}$
5b	$\left(\dfrac{A_T}{A_B}\right) \leftarrow \left(\dfrac{A_0}{\dfrac{a_1^T}{A_2}}\right)$, $\left(\dfrac{B_T}{B_B}\right) \leftarrow \left(\dfrac{B_0}{\dfrac{b_1^T}{B_2}}\right)$, $\left(\begin{array}{c\|c} C_{TL} & * \\ \hline C_{BL} & C_{BR}\end{array}\right) \leftarrow \left(\begin{array}{cc\|c} C_{00} & * & * \\ c_{10}^T & \gamma_{11} & * \\ \hline C_{20} & c_{21} & C_{22}\end{array}\right)$
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	**Determine block size** b $\left(\dfrac{A_T}{A_B}\right) \rightarrow \left(\begin{array}{c} A_0 \\ \hline a_1^T \\ \hline A_2 \end{array}\right)$, $\left(\dfrac{B_T}{B_B}\right) \rightarrow \left(\begin{array}{c} B_0 \\ \hline b_1^T \\ \hline B_2 \end{array}\right)$, $\left(\begin{array}{c\|c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array}\right) \rightarrow \left(\begin{array}{c\|cc} C_{00} & * & * \\ \hline c_{10}^T & \gamma_{11} & * \\ C_{20} & c_{21} & C_{22} \end{array}\right)$ where A_1 has b rows, B_1 has b rows, C_{11} is $b \times b$
6	$\left\{\begin{pmatrix} C_{00} & * & * \\ C_{10}^T & C_{11} & * \\ C_{20} & C_{21} & C_{22} \end{pmatrix} = \begin{pmatrix} A_0 B_0^T + B_0 A_0^T + \widehat{C}_{00} & * & * \\ \widehat{C}_{10}^T & \widehat{C}_{11} & * \\ \widehat{C}_{20} & \widehat{C}_{21} & \widehat{C}_{22} \end{pmatrix}\right\}$
8	
7	$\left\{\begin{pmatrix} \color{red}C_{00} & \color{red}* & \color{red}* \\ \color{red}C_{10}^T & \color{red}C_{11} & \color{red}* \\ \color{red}C_{20} & \color{red}C_{21} & \color{red}C_{22} \end{pmatrix} = \begin{pmatrix} \color{red}A_0 B_0^T + B_0 A_0^T + \widehat{C}_{00} & \color{red}* & \color{red}* \\ \color{red}A_1 B_0^T + B_1^T A_0^T + \widehat{C}_{10}^T & \color{red}A_1^T (B_1^T)^T + B_1^T (A_1^T)^T + \widehat{C}_{11} & \color{red}* \\ \color{red}\widehat{C}_{20} & \color{red}\widehat{C}_{21} & \color{red}\widehat{C}_{22} \end{pmatrix}\right\}$
5b	$\left(\dfrac{A_T}{A_B}\right) \leftarrow \left(\begin{array}{c} A_0 \\ \hline a_1^T \\ \hline A_2 \end{array}\right)$, $\left(\dfrac{B_T}{B_B}\right) \leftarrow \left(\begin{array}{c} B_0 \\ \hline b_1^T \\ \hline B_2 \end{array}\right)$, $\left(\begin{array}{c\|c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array}\right) \leftarrow \left(\begin{array}{cc\|c} C_{00} & * & * \\ c_{10}^T & \gamma_{11} & * \\ \hline C_{20} & c_{21} & C_{22} \end{array}\right)$
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	$A \to \left(\dfrac{A_T}{A_B}\right)$, $B \to \left(\dfrac{B_T}{B_B}\right)$, $C \to \left(\begin{array}{c\|c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array}\right)$ **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	**Determine block size** b $\left(\dfrac{A_T}{A_B}\right) \to \left(\dfrac{\begin{array}{c} A_0 \\ a_1^T \end{array}}{A_2}\right)$, $\left(\dfrac{B_T}{B_B}\right) \to \left(\dfrac{\begin{array}{c} B_0 \\ b_1^T \end{array}}{B_2}\right)$, $\left(\begin{array}{c\|c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array}\right) \to \left(\begin{array}{c\|cc} C_{00} & * & * \\ \hline c_{10}^T & \gamma_{11} & * \\ C_{20} & c_{21} & C_{22} \end{array}\right)$ **where** A_1 has b rows, B_1 has b rows, C_{11} is $b \times b$
6	$\left\{ \left(\begin{array}{ccc} C_{00} & * & * \\ C_{10}^T & C_{11} & * \\ C_{20} & C_{21} & C_{22} \end{array}\right) = \left(\begin{array}{ccc} A_0 B_0^T + B_0 A_0^T + \widehat{C}_{00} & * & * \\ \widehat{C}_{10}^T & \widehat{C}_{11} & * \\ \widehat{C}_{20} & \widehat{C}_{21} & \widehat{C}_{22} \end{array}\right) \right\}$
8	$C_{11} = A_1^T (B_1^T)^T + B_1^T (A_1^T)^T + C_{11}$ $C_{10}^T = A_1 B_0^T + B_1^T A_0^T + C_{10}^T$
7	$\left\{ \left(\begin{array}{ccc} C_{00} & * & * \\ C_{10}^T & C_{11} & * \\ C_{20} & C_{21} & C_{22} \end{array}\right) = \left(\begin{array}{ccc} A_0 B_0^T + B_0 A_0^T + \widehat{C}_{00} & * & * \\ A_1 B_0^T + B_1^T A_0^T + \widehat{C}_{10}^T & A_1^T (B_1^T)^T + B_1^T (A_1^T)^T + \widehat{C}_{11} & * \\ \widehat{C}_{20} & \widehat{C}_{21} & \widehat{C}_{22} \end{array}\right) \right\}$
5b	$\left(\dfrac{A_T}{A_B}\right) \leftarrow \left(\dfrac{\begin{array}{c} A_0 \\ a_1^T \end{array}}{A_2}\right)$, $\left(\dfrac{B_T}{B_B}\right) \leftarrow \left(\dfrac{\begin{array}{c} B_0 \\ b_1^T \end{array}}{B_2}\right)$, $\left(\begin{array}{c\|c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array}\right) \leftarrow \left(\begin{array}{cc\|c} C_{00} & * & * \\ c_{10}^T & \gamma_{11} & * \\ \hline C_{20} & c_{21} & C_{22} \end{array}\right)$
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	$\{C = AB^T + BA^T + \widehat{C}$ $\}$

	$A \to \left(\dfrac{A_T}{A_B} \right)$, $B \to \left(\dfrac{B_T}{B_B} \right)$, $C \to \left(\begin{array}{c|c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right)$ where A_T has 0 rows, B_T has 0 rows, C_{TL} is 0×0
	while $m(C_{TL}) < m(C)$ do
	Determine block size b $\left(\dfrac{A_T}{A_B} \right) \to \left(\dfrac{\dfrac{A_0}{a_1^T}}{A_2} \right)$, $\left(\dfrac{B_T}{B_B} \right) \to \left(\dfrac{\dfrac{B_0}{b_1^T}}{B_2} \right)$, $\left(\begin{array}{c|c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) \to \left(\begin{array}{c|cc} C_{00} & * & * \\ \hline c_{10}^T & \gamma_{11} & * \\ C_{20} & c_{21} & C_{22} \end{array} \right)$ where A_1 has b rows, B_1 has b rows, C_{11} is $b \times b$
	$C_{11} = A_1^T (B_1^T)^T + B_1^T (A_1^T)^T + C_{11}$ $C_{10}^T = A_1 B_0^T + B_1^T A_0^T + C_{10}^T$
	$\left(\dfrac{A_T}{A_B} \right) \gets \left(\dfrac{\dfrac{A_0}{a_1^T}}{A_2} \right)$, $\left(\dfrac{B_T}{B_B} \right) \gets \left(\dfrac{\dfrac{B_0}{b_1^T}}{B_2} \right)$, $\left(\begin{array}{c|c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) \gets \left(\begin{array}{cc|c} C_{00} & * & * \\ c_{10}^T & \gamma_{11} & * \\ \hline C_{20} & c_{21} & C_{22} \end{array} \right)$
	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

   Determine block size b

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

   where A_1 has b rows, B_1 has b rows, C_{11} is $b \times b$

$\quad C_{11} = A_1^T (B_1^T)^T + B_1^T (A_1^T)^T + C_{11}$

$\quad C_{10}^T = A_1 B_0^T + B_1^T A_0^T + C_{10}^T$

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

endwhile