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 × 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	$\left\{ \begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) \wedge m(C_{TL}) < m(C)$	
	Determine block size b	
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_{10}^T} \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 b rows, B_1 has b rows, C_{11} is $b \times b$	
	$ \left(\begin{array}{c c} C_{00} & C_{01} & C_{02} \\ \end{array} \right) \left(\begin{array}{c c} A_0 B_0^T + B_0 A_0^T + \widehat{C}_{00} & \widehat{C}_{01} & \widehat{C}_{02} \\ \end{array} \right) $	
6	$ \begin{cases} \begin{pmatrix} C_{00} & C_{01} & C_{02} \\ C_{10}^T & C_{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{C}_{11} & \widehat{C}_{12}^T \\ \widehat{C}_{20} & \widehat{C}_{21} & \widehat{C}_{22} \end{pmatrix} $	
	$C_{01} = A_0(B_1^T)^T + B_0(A_1^T)^T + C_{01}$	
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	$ \begin{cases} \begin{pmatrix} C_{00} & C_{01} & C_{02} \\ C_{10}^T & C_{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{C}_{11} & \widehat{C}_{12}^T \\ \widehat{C}_{20} & \widehat{C}_{21} & \widehat{C}_{22} \end{pmatrix} $	$\left. ight\}$
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) $	
	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	$igg \left\{$
3	while do
2,3	
	Determine block size b
E.	
5a	
	where
6	}
8	
_	
7	
۳۱.	
5b	
2	}
	endwhile
2,3	$\left\{ \begin{array}{c} \wedge \neg (\end{array} \right.$
1b	\{

Step	Algorithm: $C = AB^T + BA^T + \widehat{C}$
1a	$\{C = \widehat{C}\}$
4	where
2	
3	while do
2,3	$\left \left\{ \right. \right. \right.$
	Determine block size b
5a	
	where
6	
8	
7	
5b	
2	
	endwhile
2,3	\(\sigma(\)
1b	$\{C = AB^T + BA^T + \widehat{C} $

Step	Algorithm: $C = AB^T + BA^T + \hat{C}$
1a	$\{C = \widehat{C}$
4	where
2	$\left\{ \begin{pmatrix} C_{TL} & * \\ C_{BL} & C_{BR} \end{pmatrix} = \begin{pmatrix} A_T B_T^T + B_T A_T^T + \hat{C}_{TL} & * \\ \hat{C}_{BL} & \hat{C}_{BR} \end{pmatrix} \right\}$
3	while do
2,3	$\left\{ \begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) \wedge \right.$
	Determine block size b
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(\frac{C_{TL}}{C_{BL}} \middle * \atop C_{BR} \right) = \left(\frac{A_T B_T^T + B_T A_T^T + \widehat{C}_{TL}}{\widehat{C}_{BL}} \middle * \atop \widehat{C}_{BR} \right) \land \neg () \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	$\left\{ \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right)$	$igg\}$
3	while $m(C_{TL}) < m(C)$ do	
2,3	$\left\{ \begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) \wedge m(C_{TL}) < m(C)$	$igg\}$
	Determine block size b	
5a	where	
6		$\left.\begin{array}{c} \\ \end{array}\right\}$
8		
7		$\left. \overline{ ight\}}$
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) $	$\bigg\}$
	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} $	

Step	Algorithm: $C = AB^T + BA^T + \hat{C}$
1a	$\{C = \widehat{C} $
4	$A \to \left(\frac{A_T}{A_B}\right), B \to \left(\frac{B_T}{B_B}\right), C \to \left(\frac{C_{TL}}{C_{BL}} \begin{vmatrix} C_{TR} \\ C_{BL} \end{vmatrix} \begin{vmatrix} C_{BR} \\ C_{BL} \end{vmatrix} \right)$ 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	$\left\{ \begin{array}{c c} \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) \wedge m(C_{TL}) < m(C) \end{array} \right\}$
	Determine block size b
5a	
	where
6	$\left\{ \left\{ \right. \right.$
8	
_	
_	
7	
5b	
2	$\left\{ egin{array}{c c} C_{TL} & * \ \hline C_{BL} & C_{BR} \end{array} ight) = \left(egin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \ \hline \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} ight)$
	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	$A \to \left(\frac{A_T}{A_B}\right), B \to \left(\frac{B_T}{B_B}\right), C \to \left(\frac{C_{TL}}{C_{BL}}\right)$ 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	$\left\{ \begin{array}{c c} \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) \wedge m(C_{TL}) < m(C) \end{array} \right\}$
5a	$ \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_{01} & C_{02} \\ c_{10} & \gamma_{11} & c_{12}^T \\ C_{20} & c_{21} & C_{22} \end{pmatrix} $ where A_1 has b rows, B_1 has b rows, C_{11} is $b \times b$
6	
8	
7	
5b	$\left(\frac{A_T}{A_B}\right) \leftarrow \left(\frac{A_0}{a_1^T}\right), \left(\frac{B_T}{B_B}\right) \leftarrow \left(\frac{B_0}{b_1^T}\right), \left(\frac{C_{TL} C_{TR}}{C_{BL} C_{BR}}\right) \leftarrow \left(\frac{C_{00} c_{01} C_{02}}{c_{10} \gamma_{11} c_{12}^T}\right)$
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	$\left\{ \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) \land \neg (m(C_{TL}) < m(C)) \right\}$
1b	$\{C = AB^T + BA^T + \widehat{C} $ }

Step	Algorithm: $C = AB^T + BA^T + \widehat{C}$
1a	$\{C = \widehat{C}$
4	$A \to \left(\frac{A_T}{A_B}\right), B \to \left(\frac{B_T}{B_B}\right), C \to \left(\frac{C_{TL}}{C_{BL}}\right)$ 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) \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	Determine block size b $ \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} \end{vmatrix} \begin{vmatrix} c_{01} \\ C_{21} \end{vmatrix} \begin{vmatrix} c_{12} \\ C_{22} \end{vmatrix} \begin{vmatrix} c_{11} \\ C_{22} \end{vmatrix} \begin{vmatrix} c_{11} \\ C_{22} \end{vmatrix} \end{vmatrix} $ where A_1 has b rows, B_1 has b rows, C_{11} is $b \times b$
6	$ \left\{ \begin{pmatrix} C_{00} & C_{01} & C_{02} \\ C_{10}^T & C_{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{C}_{11} & \widehat{C}_{12}^T \\ \widehat{C}_{20} & \widehat{C}_{21} & \widehat{C}_{22} \end{pmatrix} $
8	
7	
5b	$\left(\frac{A_T}{A_B}\right) \leftarrow \left(\frac{A_0}{a_1^T}\right), \left(\frac{B_T}{B_B}\right) \leftarrow \left(\frac{B_0}{b_1^T}\right), \left(\frac{C_{TL} C_{TR}}{C_{BL} C_{BR}}\right) \leftarrow \left(\frac{C_{00} c_{01} C_{02}}{c_{10}^T \gamma_{11} c_{12}^T}\right)$
2	$\left\{ \begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right)$
	endwhile
2,3	$\left\{ \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) \land \neg (m(C_{TL}) < m(C)) \right\}$
1b	$\{C = AB^T + BA^T + \widehat{C} $

Step	Algorithm: $C = AB^T + BA^T + \hat{C}$
1a	$\{C = \widehat{C}\}$
4	$A \to \left(\frac{A_T}{A_B}\right), B \to \left(\frac{B_T}{B_B}\right), C \to \left(\frac{C_{TL} C_{TR}}{C_{BL} C_{BR}}\right)$ 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	$\left\{ \begin{array}{c c} \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) \wedge m(C_{TL}) < m(C) \end{array} \right\}$
5a	Determine block size b $ \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} & \gamma_{11} & c_{12}^T \\ C_{20} & c_{21} & C_{22} \end{vmatrix}\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_{01} & C_{02} \\ C_{10}^T & C_{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{C}_{11} & \widehat{C}_{12}^T \\ \widehat{C}_{20} & \widehat{C}_{21} & \widehat{C}_{22} \end{pmatrix} $
8	
7	$ \left\{ \begin{pmatrix} C_{00} & C_{01} & C_{02} \\ C_{10}^T & C_{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{C}_{11} & \widehat{C}_{12}^T \\ \widehat{C}_{20} & \widehat{C}_{21} & \widehat{C}_{22} \end{pmatrix} $
5b	$\left(\frac{A_T}{A_B}\right) \leftarrow \left(\frac{A_0}{a_1^T}\right), \left(\frac{B_T}{B_B}\right) \leftarrow \left(\frac{B_0}{b_1^T}\right), \left(\frac{C_{TL} C_{TR}}{C_{BL} C_{BR}}\right) \leftarrow \left(\frac{C_{00} c_{01} C_{02}}{c_{10} c_{12}}\right)$
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	$\left\{ \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) \wedge \neg (m(C_{TL}) < m(C)) \right\}$
1b	$\{C = AB^T + BA^T + \widehat{C} $

Step	Algorithm: $C = AB^T + BA^T + \widehat{C}$	
1a	$\{C=\widehat{C}$	}
4	$A o \left(\frac{A_T}{A_B}\right), B o \left(\frac{B_T}{B_B}\right), C o \left(\frac{C_{TL} C_{TR}}{C_{BL} C_{BR}}\right)$ 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) $	owedge
5a	Determine block size b $ \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} \end{vmatrix} \begin{vmatrix} c_{01} \\ c_{11} \end{vmatrix} \begin{vmatrix} c_{12} \\ c_{20} \end{vmatrix} \begin{vmatrix} c_{21} \\ c_{21} \end{vmatrix} \begin{vmatrix} c_{22} \\ c_{21} \end{vmatrix} \right) $ where A_1 has b rows, B_1 has b rows, C_{11} is $b \times b$	
6	$ \begin{cases} \begin{pmatrix} C_{00} & C_{01} & C_{02} \\ C_{10}^T & C_{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{C}_{11} & \widehat{C}_{12}^T \\ \widehat{C}_{20} & \widehat{C}_{21} & \widehat{C}_{22} \end{pmatrix} $	$\left. \begin{array}{c} \\ \end{array} \right\}$
8	$C_{01} = A_0 (B_1^T)^T + B_0 (A_1^T)^T + C_{01}$ $C_{11} = A_1^T (B_1^T)^T + B_1^T (A_1^T)^T + C_{11}$ $C_{10}^T = A_1 B_0^T + B_1^T A_0^T + C_{10}^T$	
7	$ \begin{cases} \begin{pmatrix} C_{00} & C_{01} & C_{02} \\ C_{10}^T & C_{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{C}_{11} & \widehat{C}_{12}^T \\ \widehat{C}_{20} & \widehat{C}_{21} & \widehat{C}_{22} \end{pmatrix} $	$\left.\begin{array}{c} \\ \end{array}\right\}$
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_{01} C_{02}}{c_{10}^T \gamma_{11} c_{12}^T}\right) \\ \frac{c_{10}^T c_{12}^T c_{22}^T}{C_{20} c_{21} 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) $	igg
	endwhile	
2,3	$\left\{ \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) \land \neg (m(C_{TL}) < m(C))$	$\bigg\}$
1b	$\{C = AB^T + BA^T + \widehat{C}$	}

Algorithm: $C = AB^T + BA^T + \widehat{C}$
$A \to \left(\frac{A_T}{A_B}\right), B \to \left(\frac{B_T}{B_B}\right), C \to \left(\frac{C_{TL}}{C_{BL}}\right)$ 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 $ \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_{01} & C_{02} \\ c_{10}^T & \gamma_{11} & c_{12}^T \\ C_{20} & c_{21} & C_{22} \end{pmatrix} $ where A_1 has b rows, B_1 has b rows, C_{11} is $b \times b$
$C_{01} = A_0 (B_1^T)^T + B_0 (A_1^T)^T + C_{01}$ $C_{11} = A_1^T (B_1^T)^T + B_1^T (A_1^T)^T + C_{11}$ $C_{10}^T = A_1 B_0^T + B_1^T A_0^T + C_{10}^T$
$\left(\frac{A_T}{A_B}\right) \leftarrow \left(\frac{A_0}{a_1^T}\right), \left(\frac{B_T}{B_B}\right) \leftarrow \left(\frac{B_0}{b_1^T}\right), \left(\frac{C_{TL} C_{TR}}{C_{BL} C_{BR}}\right) \leftarrow \left(\frac{C_{00} c_{01} C_{02}}{c_{10} \gamma_{11} c_{12}^T}\right)$
endwhile
$ \begin{pmatrix} A_{T} \\ A_{B} \end{pmatrix} \to \begin{pmatrix} A_{0} \\ a_{1}^{T} \\ A_{2} \end{pmatrix}, \begin{pmatrix} B_{T} \\ B_{B} \end{pmatrix} \to \begin{pmatrix} B_{0} \\ b_{1}^{T} \\ B_{2} \end{pmatrix}, \begin{pmatrix} C_{TL} \\ C_{BL} \end{pmatrix} C_{RR} \end{pmatrix} \to \begin{pmatrix} C_{00} \\ c_{10}^{T} \\ C_{11} \\ C_{20} \end{pmatrix} c_{21} C_{22} $ where A_{1} has b rows, B_{1} has b rows, C_{11} is $b \times b$ $ C_{01} = A_{0}(B_{1}^{T})^{T} + B_{0}(A_{1}^{T})^{T} + C_{01} $ $ 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} $ $ \begin{pmatrix} A_{T} \\ A_{B} \end{pmatrix} \leftarrow \begin{pmatrix} A_{0} \\ c_{11} \\ A_{2} \end{pmatrix}, \begin{pmatrix} B_{T} \\ B_{B} \end{pmatrix} \leftarrow \begin{pmatrix} B_{0} \\ b_{1}^{T} \\ B_{B} \end{pmatrix}, \begin{pmatrix} C_{TL} \\ C_{RR} \\ C_{BL} \end{pmatrix} \leftarrow \begin{pmatrix} C_{00} \\ C_{01} \\ C_{02} \\ C_{10} \\ C_{21} \end{pmatrix} C_{22} $

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

Determine block size b

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

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

$$C_{01} = A_0 (B_1^T)^T + B_0 (A_1^T)^T + C_{01}$$

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

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

$$\left(\frac{A_T}{A_B}\right) \leftarrow \left(\frac{A_0}{a_1^T}\right), \left(\frac{B_T}{B_B}\right) \leftarrow \left(\frac{B_0}{b_1^T}\right), \left(\frac{C_{TL} | C_{TR}}{C_{BL} | C_{BR}}\right) \leftarrow \left(\frac{C_{00} | c_{01} | C_{02}}{c_{10}^T | \gamma_{11} | c_{12}^T}\right) \\
\frac{c_{10}}{C_{20} | c_{21} | C_{22}}\right)$$

endwhile