Step Algorithm: $C = AB^{T} + BA^{T} + C$ 1a $\{C = \hat{C} \mid A_{T} \}$ $\{B_{T} \}$ $\{C_{TL} \mid *\}$	
	}
$ \begin{array}{c 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 rows, } B_T \text{ has 0 rows, } C_{TL} \text{ is } 0 \times 0 \end{array} $	
$2  \left\{ \left( \begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left( \begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right)$	
3 while $m(C_{TL}) < m(C)$ do	
$ 2,3  \left\{  \left( \frac{C_{TL}}{C_{BL}} \right  * \atop C_{BL} C_{BR} \right) = \left( \frac{A_T B_T^T + B_T A_T^T + \widehat{C}_{TL}}{A_B B_T^T + \widehat{C}_{BL}} \right  * \atop \widehat{C}_{BR} \right) \land m(C_{TL}) < m(C_$	C)
Determine block size b	
5a $\left(\frac{A_T}{A_B}\right) \to \left(\frac{A_0}{A_1^T}\right), \left(\frac{B_T}{B_B}\right) \to \left(\frac{B_0}{B_1^T}\right), \left(\frac{C_{TL}}{C_{BL}} \middle  * \atop C_{BR}\right) \to \left(\frac{C_{00}}{C_{10}^T}\right)$ where $A_1$ has $b$ rows, $B_1$ has $b$ rows, $C_{11}$ is $b \times b$	$\begin{pmatrix} * & * \\ C_{11} & * \\ C_{21} & C_{22} \end{pmatrix}$
	)
$ \begin{cases} \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} & * & * \\ A_1^T B_0^T + \widehat{C}_{10}^T & \widehat{C}_{11} & * \\ A_2 B_0^T + \widehat{C}_{20} & \widehat{C}_{21} & \widehat{C}_{22} \end{pmatrix} $	
$C_{11} = A_1^T (B_1^T)^T + B_1^T (A_1^T)^T + C_{11}$	
$C_{21} = A_2 (B_1^T)^T + C_{21}^T$	
$ \begin{cases} \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} & * \\ 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 + A_2 B_0^T + \widehat{C}_{20} & A_2 (B_1^T)^T + \widehat{C}_{21} \end{cases} $	$\left.egin{array}{ccc} * \ -\widehat{C}_{11} & * \ \widehat{C}_{22} \end{array} ight)$
5b $\left(\frac{A_T}{A_B}\right) \leftarrow \left(\frac{A_0}{A_1^T}\right), \left(\frac{B_T}{B_B}\right) \leftarrow \left(\frac{B_0}{B_1^T}\right), \left(\frac{C_{TL}}{C_{BL}}\right) \leftarrow \left(\frac{C_{00}}{C_{10}}\right)$	
$2  \left\{ \begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left( \begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right)$	
endwhile	
$2,3  \left\{ \left( \begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left( \begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) \land \neg (m(C_{TL}) < m(C_{TL}) < m(C_{TL$	·'))
$1b  \{C = AB^T + BA^T + \widehat{C}$	}

Step	Algorithm: $C = AB^T + BA^T + C$
1a	{
4	
	where
2	
3	while do
2,3	
	Determine block size b
-	
5a	
	where
6	<b>                                     </b>
8	
_	
7	
	<u> </u>
<b>F</b> 1	
5b	
2	<b> </b>
	endwhile
2,3	$\left  \begin{array}{c} \left\langle \begin{array}{c} \left\langle \begin{array}{c} \left\langle $
1b	<b>\{</b>

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

Step	Algorithm: $C = AB^T + BA^T + C$
1a	$\{C = \widehat{C}$
4	where
2	$\left\{ \begin{pmatrix} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{pmatrix} = \begin{pmatrix} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{pmatrix} \right\}$
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 A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) \wedge  $
	Determine block size $b$
5a	where
	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	$\left\{ \begin{pmatrix} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{pmatrix} = \begin{pmatrix} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{pmatrix} \land \neg ( ) \right\}$
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	$\left\{ \left( \begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left( \begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right)$	$igg\}$
3	while $m(C_{TL}) < m(C)$ do	
2,3	$\left\{ \begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left( \begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) \wedge m(C_{TL}) < m(C)$	$igg\}$
	Determine block size $b$	
5a	where	
6	Where	
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) $	$igg\}$
	endwhile	
2,3	$\left\{ \left( \begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left( \begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) \land \neg (m(C_{TL}) < m(C))$	$\left. \right\}$
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	$\left\{ \left( \begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left( \begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right)$
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) $
	Determine block size $b$
5a	where
	where \( \)
6	
8	
7	
5b	
2	$\left\{ \begin{array}{c c} \left( \begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left( \begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) \end{array} \right\}$
	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	$A \to \left(\frac{A_T}{A_B}\right), B \to \left(\frac{B_T}{B_B}\right), C \to \left(\frac{C_{TL}}{C_{BL}}\right)$ where $A_T$ has 0 rows, $B_T$ has 0 rows, $C_{TL}$ is $0 \times 0$
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	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}}   * \\ C_{BL}   C_{BR}\right) \to \left(\frac{C_{00}}{C_{10}}   * * \\ C_{20}   C_{21}   C_{22}\right) $ 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_{BL}} \mid x\right) \leftarrow \left(\frac{C_{00} * * *}{C_{10} C_{11}} \mid x\right) \\ \frac{C_{TL}}{C_{BL}} \mid C_{BR}\right) \leftarrow \left(\frac{C_{00} * * *}{C_{10} C_{11}} \mid x\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	$A \to \left(\frac{A_T}{A_B}\right), B \to \left(\frac{B_T}{B_B}\right), C \to \left(\frac{C_{TL}}{C_{BL}}\right)$ where $A_T$ has 0 rows, $B_T$ has 0 rows, $C_{TL}$ is $0 \times 0$
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	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}}\right) \to \left(\frac{C_{00}}{C_{BR}}\right) \to \left(\frac{C_{00}}{C_{10}}\right) \times \left(\frac{C_{TL}}{C_{20}}\right) \times \left(\frac{C_{TL}}{C_{BL}}\right) \times \left(\frac{C_{TL}}{C_{BR}}\right) \to \left(\frac{C_{00}}{C_{10}}\right) \times \left(\frac{C_{00}}{C_{21}}\right) \times $
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} & * & * \\ A_1^T B_0^T + \widehat{C}_{10}^T & \widehat{C}_{11} & * \\ A_2 B_0^T + \widehat{C}_{20} & \widehat{C}_{21} & \widehat{C}_{22} \end{pmatrix} $
8	
7	
5b	$\left(\begin{array}{cccccccccccccccccccccccccccccccccccc$
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	$A \to \left(\frac{A_T}{A_B}\right), B \to \left(\frac{B_T}{B_B}\right), C \to \left(\frac{C_{TL}}{C_{BL}}\right)$ where $A_T$ has 0 rows, $B_T$ has 0 rows, $C_{TL}$ is $0 \times 0$
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	$\left\{ \begin{array}{c c} \left( \begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left( \begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right) \wedge m(C_{TL}) < m(C) \end{array} \right\}$
5a	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}}\right) \to \left(\frac{C_{00}}{C_{BR}}\right) \to \left(\frac{C_{00}}{C_{10}}\right) \times \left(\frac{C_{TL}}{C_{20}}\right) \times $
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} & * & * \\ A_1^T B_0^T + \widehat{C}_{10}^T & \widehat{C}_{11} & * \\ A_2 B_0^T + \widehat{C}_{20} & \widehat{C}_{21} & \widehat{C}_{22} \end{pmatrix} $
8	
7	$ \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} & * & * \\ 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} & * \\ A_2 B_0^T + \widehat{C}_{20} & A_2 (B_1^T)^T + \widehat{C}_{21} & \widehat{C}_{22} \end{pmatrix} $
5b	$\left(\frac{A_T}{A_B}\right) \leftarrow \left(\frac{A_0}{A_1^T}\right), \left(\frac{B_T}{B_B}\right) \leftarrow \left(\frac{B_0}{B_1^T}\right), \left(\frac{C_{TL}}{C_{BL}} \middle  * \atop C_{BL} \middle  C_{BR}\right) \leftarrow \left(\frac{C_{00}}{C_{10}} \middle  * \atop C_{20} \middle  C_{21} \middle  C_{22}\right)$
2	$\left\{ \begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left( \begin{array}{c c} A_T B_T^T + B_T A_T^T + \widehat{C}_{TL} & * \\ \hline A_B B_T^T + \widehat{C}_{BL} & \widehat{C}_{BR} \end{array} \right)$
	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) \wedge \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	$A \to \left(\frac{A_T}{A_B}\right), B \to \left(\frac{B_T}{B_B}\right), C \to \left(\frac{C_{TL}}{C_{BL}}\right)$ where $A_T$ has 0 rows, $B_T$ has 0 rows, $C_{TL}$ is $0 \times 0$
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) \\ \end{array} $
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}}   * \atop C_{BL}   C_{BR}\right) \to \left(\frac{C_{00}}{C_{10}}   *                                 $
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} & * & * \\ A_1^T B_0^T + \widehat{C}_{10}^T & \widehat{C}_{11} & * \\ A_2 B_0^T + \widehat{C}_{20} & \widehat{C}_{21} & \widehat{C}_{22} \end{pmatrix} $
8	$C_{11} = A_1^T (B_1^T)^T + B_1^T (A_1^T)^T + C_{11}$ $C_{10}^T = B_1^T A_0^T + C_{10}^T$ $C_{21} = A_2 (B_1^T)^T + C_{21}^T$
7	$ \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} & * & * \\ 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} & * \\ A_2 B_0^T + \widehat{C}_{20} & A_2 (B_1^T)^T + \widehat{C}_{21} & \widehat{C}_{22} \end{pmatrix} $
5b	$\langle A_0 \rangle \langle A_$
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} $

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  $0 \times 0$ 

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

Determine block size b

$$\left(\frac{A_T}{A_B}\right) \to \left(\frac{A_0}{A_1^T}\right), \left(\frac{B_T}{B_B}\right) \to \left(\frac{B_0}{B_1^T}\right), \left(\frac{C_{TL}}{C_{BL}} \middle| * \atop C_{BL} \middle| C_{BR}\right) \to \left(\frac{C_{00}}{C_{10}} \middle| * \middle| * \atop C_{20} \middle| C_{21} \middle| C_{22}\right)$$

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

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

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

$$C_{21} = A_2(B_1^T)^T + C_{21}^T$$

$$\left(\frac{A_T}{A_B}\right) \leftarrow \left(\frac{A_0}{A_1^T}\right), \left(\frac{B_T}{B_B}\right) \leftarrow \left(\frac{B_0}{B_1^T}\right), \left(\frac{C_{TL}}{C_{BL}} \middle| * \atop C_{BL} \middle| C_{BR}\right) \leftarrow \left(\frac{C_{00}}{C_{10}} \middle| * \atop C_{20} \middle| C_{21} \middle| C_{22}\right)$$

endwhile