Step	Algorithm: $C := AB^T + BA^T + C$
1a	$\{C = \widehat{C}\}$
4	$C \to \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array}\right), A \to \left(\begin{array}{c c} A_T \\ \hline A_B \end{array}\right), B \to \left(\begin{array}{c c} B_T \\ \hline B_B \end{array}\right)$ where C_{BR} is 0×0 , A_B and B_B have 0 rows
2	$\left\{ \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & A_B B_B^T + B_B A_B^T + \widehat{C}_{BR} \end{array} \right)$
3	while $m(C_{BR}) < m(C)$ do
2,3	$\left\{ \begin{array}{c c} \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & A_B B_B^T + B_B A_B^T + \widehat{C}_{BR} \end{array} \right) \wedge m(C_{BR}) < m(C) \end{array} \right\}$
5a	Determine block size b $ \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array}\right) \rightarrow \left(\begin{array}{c c} C_{00} & * & * \\ \hline C_{10} & C_{11} & * \\ \hline C_{20} & C_{21} & C_{22} \end{array}\right), \left(\begin{array}{c} A_T \\ \hline A_B \end{array}\right) \rightarrow \left(\begin{array}{c c} A_0 \\ \hline A_1 \\ \hline A_2 \end{array}\right), \left(\begin{array}{c} B_T \\ \hline B_B \end{array}\right) \rightarrow \left(\begin{array}{c} B_0 \\ \hline B_1 \\ \hline B_2 \end{array}\right) $ where C_{11} is $b \times b$, A_1 and B_1 have b row
6	$ \left\{ \begin{array}{ccc} C_{00} & * & * \\ C_{10} & C_{11} & * \\ C_{20} & C_{21} & C_{22} \end{array} \right) = \left(\begin{array}{ccc} C_{00} & * & * \\ C_{10}^T & C_{11} & * \\ C_{20} & C_{21} & A_2 B_2^T + B_2 A_2^T + \widehat{C}_{22} \end{array} \right) $
8	$C_{11} := A_1^T B_1 + B_1^T A_1 + \widehat{C}_{11}$ $C_{21} := A_2 B_1 + B_2 A_1 + \widehat{C}_{21}$
7	$ \begin{cases} \begin{pmatrix} C_{00} & * & * \\ C_{10} & C_{11} & * \\ C_{20} & C_{21} & C_{22} \end{pmatrix} = \begin{pmatrix} C_{00} & * & * \\ C_{10} & A_1^T B_1 + B_1^T A_1 + \widehat{C}_{11} & * \\ C_{20} & A_2 B_1 + B_2 A_1 + \widehat{C}_{21} & A_2 B_2^T + B_2 A_2^T + \widehat{C}_{22} \end{pmatrix} $
5b	$ \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array}\right) \leftarrow \left(\begin{array}{c c} C_{00} & * & * \\ \hline C_{10} & C_{11} & * \\ \hline C_{20} & C_{21} & C_{22} \end{array}\right), \left(\begin{array}{c} A_T \\ \hline A_B \end{array}\right) \leftarrow \left(\begin{array}{c c} A_0 \\ \hline A_1 \\ \hline A_2 \end{array}\right), \left(\begin{array}{c} B_T \\ \hline B_B \end{array}\right) \leftarrow \left(\begin{array}{c} B_0 \\ \hline B_1 \\ \hline B_2 \end{array}\right) $
2	$\left\{ \begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & A_B B_B^T + B_B A_B^T + \widehat{C}_{BR} \end{array} \right)$
	endwhile
2,3	$\left\{ \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & A_B B_B^T + B_B A_B^T + \widehat{C}_{BR} \end{array} \right) \land \neg (m(C_{BR}) < m(C))$
1b	$\{C := AB^T + BA^T + \widehat{C}.$

Step	Algorithm: $C := AB^T + BA^T + C$		
1a	{		}
4			
	where		
2			}
3	while do		í
2,3		^	}
	Determine block size b		,
5a			
54			
	where		
6			}
)
8			
7	{		}
5b			
2			}
	endwhile		
2,3		∧¬()
		· 	
1b	{		}

Step	Algorithm: $C := AB^T + BA^T + C$
1a	$\{C = \widehat{C}\}$
4	
	where
2	$\left\{ \begin{array}{c} \end{array} \right\}$
3	while do
2,3	$\left\{ \begin{array}{c} \wedge \end{array} \right\}$
	Determine block size b
5a	
	where
6	
8	
7	
5b	
2	
	endwhile
2,3	$\left\{ \begin{array}{ccc} & & & \\ & & & \\ & & & \\ \end{array} \right.$
1b	$\{C := AB^T + BA^T + \widehat{C}.$

Step	Algorithm: $C := AB^T + BA^T + C$
1a	$\left \{ C = \widehat{C} \right $
4	where
2	$ \left\{ \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & A_B B_B^T + B_B A_B^T + \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} \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & A_B B_B^T + B_B A_B^T + \widehat{C}_{BR} \end{array} \right) \land $
5a	Determine block size b 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} \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & A_B B_B^T + B_B A_B^T + \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} \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & A_B B_B^T + B_B A_B^T + \widehat{C}_{BR} \end{array} \right) \land \neg () $
1b	$\left\{ C := AB^T + BA^T + \widehat{C}. \right\}$

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

Step	Algorithm: $C := AB^T + BA^T + C$
1a	${C = \hat{C}}$
4	$C \to \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array}\right), A \to \left(\begin{array}{c c} A_T \\ \hline A_B \end{array}\right), B \to \left(\begin{array}{c c} B_T \\ \hline B_B \end{array}\right)$ where C_{BR} is 0×0 , A_B and B_B have 0 rows
2	$ \left\{ \left(\frac{C_{TL}}{C_{BL}} \middle * \atop C_{BR} \right) = \left(\frac{\widehat{C}_{TL}}{\widehat{C}_{BL}} \middle * \atop \widehat{C}_{BL} \middle A_B B_B^T + B_B A_B^T + \widehat{C}_{BR} \right) \right\} $
3	while $m(C_{BR}) < m(C)$ do
2,3	$\left\{ \begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & A_B B_B^T + B_B A_B^T + \widehat{C}_{BR} \end{array} \right) \wedge m(C_{BR}) < m(C) $
5a	Determine block size b 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} \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & A_B B_B^T + B_B A_B^T + \widehat{C}_{BR} \end{array} \right) $
	endwhile
2,3	$ \left\{ \left(\frac{C_{TL}}{C_{BL}} \right) * \left(\frac{\widehat{C}_{TL}}{\widehat{C}_{BL}} \right) = \left(\frac{\widehat{C}_{TL}}{\widehat{C}_{BL}} \right) * \left(\frac{1}{\widehat{C}_{BL}} \right) \wedge \neg (m(C_{BR}) < m(C)) \right\} $
1b	$\{C := AB^T + BA^T + \widehat{C}.$

Step	Algorithm: $C := AB^T + BA^T + C$	
1a	$\{C=\widehat{C}$	}
4	$C \to \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array}\right), A \to \left(\begin{array}{c c} A_T \\ \hline A_B \end{array}\right), B \to \left(\begin{array}{c c} B_T \\ \hline B_B \end{array}\right)$ where C_{BR} is 0×0 , A_B and B_B have 0 rows	
2	$\left\{ \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & A_B B_B^T + B_B A_B^T + \widehat{C}_{BR} \end{array} \right)$	igg
3	while $m(C_{BR}) < m(C)$ do	
2,3	$ \left\{ \begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & A_B B_B^T + B_B A_B^T + \widehat{C}_{BR} \end{array} \right) \land m(C_{BR}) < m(C) $	igg
5a	Determine block size b $ \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array}\right) \rightarrow \left(\begin{array}{c c} C_{00} & * & * \\ \hline C_{10} & C_{11} & * \\ \hline C_{20} & C_{21} & C_{22} \end{array}\right), \left(\begin{array}{c} A_T \\ \hline A_B \end{array}\right) \rightarrow \left(\begin{array}{c c} A_0 \\ \hline A_1 \\ \hline A_2 \end{array}\right), \left(\begin{array}{c} B_T \\ \hline B_B \end{array}\right) \rightarrow \left(\begin{array}{c} B_0 \\ \hline B_1 \\ \hline B_2 \end{array}\right) $ where C_{11} is $b \times b$, A_1 and B_1 have b row	
6		$\left. ight\}$
8		
7		$\left. \right\}$
5b	$\left(\begin{array}{c c} C_{BL} & C_{BR} \end{array} \right) \left(\begin{array}{c c} C_{20} & C_{21} & C_{22} \end{array} \right) \left(\begin{array}{c c} A_B \end{array} \right) \left(\begin{array}{c c} A_2 \end{array} \right) \left(\begin{array}{c c} B_B \end{array} \right) \left(\begin{array}{c c} B_2 \end{array} \right)$	
2	$\left\{ \begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & A_B B_B^T + B_B A_B^T + \widehat{C}_{BR} \end{array} \right)$	
	endwhile	
2,3	$\left\{ \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & A_B B_B^T + B_B A_B^T + \widehat{C}_{BR} \end{array} \right) \land \neg (m(C_{BR}) < m(C))$	$\left. \right\}$
1b	$\{C := AB^T + BA^T + \widehat{C}.$	}

Step	Algorithm: $C := AB^T + BA^T + C$	
1a	$\{C=\widehat{C}$	}
4	$C \to \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array}\right), A \to \left(\begin{array}{c c} A_T \\ \hline A_B \end{array}\right), B \to \left(\begin{array}{c c} B_T \\ \hline B_B \end{array}\right)$ where C_{BR} is 0×0 , A_B and B_B have 0 rows	
2	$\left\{ \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & A_B B_B^T + B_B A_B^T + \widehat{C}_{BR} \end{array} \right)$	igg
3	while $m(C_{BR}) < m(C)$ do	
2,3	$ \left\{ \begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & A_B B_B^T + B_B A_B^T + \widehat{C}_{BR} \end{array} \right) \land m(C_{BR}) < m(C) $	$\left. \begin{array}{c} \\ \end{array} \right\}$
5a	Determine block size b $ \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array}\right) \rightarrow \left(\begin{array}{c c} C_{00} & * & * \\ \hline C_{10} & C_{11} & * \\ \hline C_{20} & C_{21} & C_{22} \end{array}\right), \left(\begin{array}{c} A_T \\ \hline A_B \end{array}\right) \rightarrow \left(\begin{array}{c} A_0 \\ A_1 \\ \hline A_2 \end{array}\right), \left(\begin{array}{c} B_T \\ \hline B_B \end{array}\right) \rightarrow \left(\begin{array}{c} B_0 \\ B_1 \\ \hline B_2 \end{array}\right) $ where C_{11} is $b \times b$, A_1 and B_1 have b row	
6	$ \begin{cases} \begin{pmatrix} C_{00} & * & * \\ C_{10} & C_{11} & * \\ C_{20} & C_{21} & C_{22} \end{pmatrix} = \begin{pmatrix} C_{00} & * & * \\ C_{10}^T & C_{11} & * \\ C_{20} & C_{21} & A_2 B_2^T + B_2 A_2^T + \widehat{C}_{22} \end{pmatrix} $	$\left. \right\}$
8		
7		$\left. \begin{array}{c} \\ \end{array} \right\}$
5b	$ \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array}\right) \leftarrow \left(\begin{array}{c c} C_{00} & * & * \\ \hline C_{10} & C_{11} & * \\ \hline C_{20} & C_{21} & C_{22} \end{array}\right), \left(\begin{array}{c} A_T \\ \hline A_B \end{array}\right) \leftarrow \left(\begin{array}{c c} A_0 \\ \hline A_1 \\ \hline A_2 \end{array}\right), \left(\begin{array}{c} B_T \\ \hline B_B \end{array}\right) \leftarrow \left(\begin{array}{c} B_0 \\ \hline B_1 \\ B_2 \end{array}\right) $	
2	$ \left\{ \begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & A_B B_B^T + B_B A_B^T + \widehat{C}_{BR} \end{array} \right) $	$\left. \right\}$
	endwhile	
2,3	$\left\{ \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array} \right) = \left(\begin{array}{c c} \widehat{C}_{TL} & * \\ \hline \widehat{C}_{BL} & A_B B_B^T + B_B A_B^T + \widehat{C}_{BR} \end{array} \right) \land \neg (m(C_{BR}) < m(C))$	$\left. \right\}$
1b	$\{C := AB^T + BA^T + \widehat{C}.$	}

Step Algorithm:
$$C := AB^T + BA^T + C$$

1a $\{C = \widehat{C}\}$

4 $C \to \begin{pmatrix} C_{TL} & * \\ C_{BL} & | C_{BR} & | S \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BL} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_{BR} & | C_{BR} & | C_{BR} \\ C_{BL} & | C_$

Step Algorithm:
$$C := AB^T + BA^T + C$$

1a $\{C = \widehat{C}\}$

4 $C \to \begin{pmatrix} C_{TL} & * \\ C_{BL} & | C_{BR} & | S \rangle & A \to \begin{pmatrix} A_T \\ A_B \end{pmatrix}, B \to \begin{pmatrix} B_T \\ B_B \end{pmatrix}$

where C_{BR} is 0×0 , A_B and B_B have 0 rows

2 $\{\begin{pmatrix} C_{TL} & * \\ C_{BL} & | C_{BR} \end{pmatrix} = \begin{pmatrix} \widehat{C}_{TL} & * \\ \widehat{C}_{BL} & | C_{BR} \end{pmatrix} = \begin{pmatrix} \widehat{C}_{TL} & * \\ \widehat{C}_{BL} & | C_{BR} \end{pmatrix} = \begin{pmatrix} \widehat{C}_{TL} & * \\ \widehat{C}_{BL} & | C_{BR} \end{pmatrix} = \begin{pmatrix} \widehat{C}_{TL} & * \\ \widehat{C}_{BL} & | C_{BR} \end{pmatrix} = \begin{pmatrix} \widehat{C}_{TL} & * \\ \widehat{C}_{BL} & | C_{BR} \end{pmatrix} \wedge m(C_{BR}) \wedge m(C)$

3 while $m(C_{BR}) < m(C)$ do

2,3 $\{\begin{pmatrix} C_{TL} & * \\ C_{BL} & | C_{BR} \end{pmatrix} \to \begin{pmatrix} \widehat{C}_{DL} & * \\ \widehat{C}_{BL} & | C_{BR} \end{pmatrix} \to \begin{pmatrix} \widehat{C}_{00} & * & * \\ \widehat{C}_{10} & C_{11} & * \\ \widehat{C}_{20} & | C_{21} \end{pmatrix} \begin{pmatrix} A_T \\ A_B \end{pmatrix} \to \begin{pmatrix} A_0 \\ A_1 \\ A_2 \end{pmatrix}, \begin{pmatrix} B_T \\ B_B \end{pmatrix} \to \begin{pmatrix} B_0 \\ B_1 \\ B_2 \end{pmatrix}$

where C_{11} is $b \times b$, A_1 and B_1 have b row

6 $\{\begin{pmatrix} C_{00} & * & * \\ C_{10} & C_{11} & * \\ C_{20} & C_{21} & C_{22} \end{pmatrix} = \begin{pmatrix} \widehat{C}_{00} & * & * \\ \widehat{C}_{10}^T & C_{11} & * \\ \widehat{C}_{20} & C_{21} & A_2 B_1^T + B_2 A_1^T + \widehat{C}_{12} \end{pmatrix}$

8 $C_{11} := A_1^T B_1 + B_1^T A_1 + \widehat{C}_{11}$
 $C_{21} := A_2 B_1 + B_2 A_1 + \widehat{C}_{21}$

7 $\{\begin{pmatrix} C_{00} & * & * \\ C_{10} & C_{11} & * \\ C_{20} & C_{21} & C_{22} \end{pmatrix} = \begin{pmatrix} \widehat{C}_{00} & * & * \\ \widehat{C}_{10} & A_1^T B_1 + B_1^T A_1 + \widehat{C}_{11} & * \\ \widehat{C}_{20} & A_2 B_1 + B_2 A_1 + \widehat{C}_{21} & A_2 B_2^T + B_2 A_2^T + \widehat{C}_{22} \end{pmatrix}$

5 b $\begin{pmatrix} C_{TL} & * \\ C_{DL} & C_{BR} \end{pmatrix} \leftarrow \begin{pmatrix} C_{00} & * & * \\ C_{10} & C_{11} & * \\ C_{20} & C_{21} & C_{22} \end{pmatrix}, \begin{pmatrix} A_T \\ A_B \end{pmatrix} \leftarrow \begin{pmatrix} A_0 \\ A_1 \\ A_2 \end{pmatrix}, \begin{pmatrix} B_T \\ B_B \end{pmatrix} \leftarrow \begin{pmatrix} B_0 \\ B_1 \\ B_2 \end{pmatrix}$

cndwhile

2,3 $\{\begin{pmatrix} C_{TL} & * \\ C_{BL} & C_{BR} \end{pmatrix} = \begin{pmatrix} \widehat{C}_{TL} & * \\ \widehat{C}_{BL} & A_B B_B^T + B_B A_B^T + \widehat{C}_{BR} \end{pmatrix} \wedge \neg (m(C_{BR}) < m(C))$

Algorithm: $C := AB^T + BA^T + C$
$C \to \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array}\right), A \to \left(\begin{array}{c c} A_T \\ \hline A_B \end{array}\right), B \to \left(\begin{array}{c c} B_T \\ \hline B_B \end{array}\right)$ where C_{BR} is 0×0 , A_B and B_B have 0 rows
while $m(C_{BR}) < m(C)$ do
Determine block size b
$ \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array}\right) \rightarrow \left(\begin{array}{c c} C_{00} & * & * \\ \hline C_{10} & C_{11} & * \\ \hline C_{20} & C_{21} & C_{22} \end{array}\right), \left(\begin{array}{c} A_T \\ \hline A_B \end{array}\right) \rightarrow \left(\begin{array}{c} A_0 \\ \hline A_1 \\ \hline A_2 \end{array}\right), \left(\begin{array}{c} B_T \\ \hline B_B \end{array}\right) \rightarrow \left(\begin{array}{c} B_0 \\ \hline B_1 \\ \hline B_2 \end{array}\right) $ where C_{11} is $b \times b$, A_1 and B_1 have b row
, , , ,
$C_{11} := A_1^T B_1 + B_1^T A_1 + \widehat{C}_{11}$
$C_{21} := A_2 B_1 + B_2 A_1 + \widehat{C}_{21}$
$ \left(\begin{array}{c c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array}\right) \leftarrow \left(\begin{array}{c c} C_{00} & * & * \\ \hline C_{10} & C_{11} & * \\ \hline C_{20} & C_{21} & C_{22} \end{array}\right), \left(\begin{array}{c} A_T \\ \hline A_B \end{array}\right) \leftarrow \left(\begin{array}{c c} A_0 \\ \hline A_1 \\ \hline A_2 \end{array}\right), \left(\begin{array}{c} B_T \\ \hline B_B \end{array}\right) \leftarrow \left(\begin{array}{c} B_0 \\ \hline B_1 \\ \hline B_2 \end{array}\right) $
endwhile

Algorithm: $C := AB^T + BA^T + C$

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

where C_{BR} is 0×0 , A_B and B_B have 0 rows

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

Determine block size b

$$\left(\begin{array}{c|c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array}\right) \rightarrow \left(\begin{array}{c|c} C_{00} & * & * \\ \hline C_{10} & C_{11} & * \\ \hline C_{20} & C_{21} & C_{22} \end{array}\right) , \left(\begin{array}{c} A_T \\ \hline A_B \end{array}\right) \rightarrow \left(\begin{array}{c} A_0 \\ \hline A_1 \\ \hline A_2 \end{array}\right) , \left(\begin{array}{c} B_T \\ \hline B_B \end{array}\right) \rightarrow \left(\begin{array}{c} B_0 \\ \hline B_1 \\ \hline B_2 \end{array}\right)$$

where C_{11} is $b \times b$, A_1 and B_1 have b row

$$C_{11} := A_1^T B_1 + B_1^T A_1 + \widehat{C}_{11}$$

$$C_{21} := A_2 B_1 + B_2 A_1 + \widehat{C}_{21}$$

$$\left(\begin{array}{c|c} C_{TL} & * \\ \hline C_{BL} & C_{BR} \end{array}\right) \leftarrow \left(\begin{array}{c|c} C_{00} & * & * \\ \hline C_{10} & C_{11} & * \\ \hline C_{20} & C_{21} & C_{22} \end{array}\right), \left(\begin{array}{c} A_T \\ \hline A_B \end{array}\right) \leftarrow \left(\begin{array}{c|c} A_0 \\ \hline A_1 \\ \hline A_2 \end{array}\right), \left(\begin{array}{c} B_T \\ \hline B_B \end{array}\right) \leftarrow \left(\begin{array}{c} B_0 \\ \hline B_1 \\ \hline B_2 \end{array}\right)$$

endwhile