Step	Algorithm: $C := AB + C$ where A is symmetric and stored in the lower triangular part
1a	${C = \widehat{C}}$
4	$A o \left(egin{array}{c c} A_{TL} & A_{TR} \\ \hline A_{BL} & A_{BR} \\ \hline \end{array} ight), B o \left(egin{array}{c c} B_T \\ \hline B_B \\ \hline \end{array} ight), C o \left(egin{array}{c} C_T \\ \hline C_B \\ \hline \end{array} ight)$
	where A_{TL} is 0×0 , B_T has 0 rows, C_T has 0 rows
2	$\left\{ \left(\frac{C_T}{C_B} \right) = \left(\frac{\widehat{C}_T}{A_{BR}B_B + \widehat{C}_B} \right) \right\}$
3	while $m(A_{TL}) < m(A)$ do
2,3	$\left\{ \left(\frac{C_T}{C_B} \right) = \left(\frac{\widehat{C}_T}{A_{BR}B_B + \widehat{C}_B} \right) \land m(A_{TL}) < m(A) \right\}$
5a	$ \left(\begin{array}{c c} A_{TL} & A_{TR} \\ A_{BL} & A_{BR} \end{array}\right) \rightarrow \left(\begin{array}{c c} A_{00} & a_{01} & A_{02} \\ \hline a_{10}^T & \alpha_{11} & a_{12}^T \\ A_{20} & a_{21} & A_{22} \end{array}\right), \left(\begin{array}{c} B_T \\ B_B \end{array}\right) \rightarrow \left(\begin{array}{c} B_0 \\ \hline b_1^T \\ B_2 \end{array}\right), \left(\begin{array}{c} C_T \\ C_B \end{array}\right) \rightarrow \left(\begin{array}{c} C_0 \\ \hline c_1^T \\ C_2 \end{array}\right) $ where α_{11} is 1×1 , b_1 has 1 row, c_1 has 1 row
6	$ \left\{ \begin{array}{c} \begin{pmatrix} C_0 \\ c_1^T \\ C_2 \end{pmatrix} = \begin{pmatrix} & \widehat{C}_0 \\ & \widehat{c}_1^T \\ & A_{22}B_2 + \widehat{C}_2 \end{pmatrix} \right. $
	$C_0 := A_{00}B_0 + a_{01}b_1^T + A_{02}B_2 + C_0$
8	$c_1^T := a_{10}^T B_0 + lpha_{11} b_1^T + a_{12}^T B_2 + c_1^T$
	$C_2 := A_{20}B_0 + a_{21}b_1^T + A_{22}B_2 + C_2$
7	$ \begin{cases} C_2 := A_{20}D_0 + d_{21}b_1 + A_{22}D_2 + C_2 \\ \begin{pmatrix} C_0 \\ c_1^T \\ C_2 \end{pmatrix} = \begin{pmatrix} \alpha_{11}b_1^T + a_{21}^T B_2 + \hat{c}_1^T \\ a_{21}b_1^T + A_{22}B_2 + \hat{C}_2 \end{pmatrix} $
5b	$ \left(\begin{array}{c c} A_{TL} & A_{TR} \\ \hline A_{BL} & A_{BR} \end{array}\right) \leftarrow \left(\begin{array}{c c} a_{10}^T & \alpha_{11} & a_{12}^T \\ \hline A_{20} & a_{21} & A_{22} \end{array}\right) , \left(\begin{array}{c} B_T \\ \hline B_B \end{array}\right) \leftarrow \left(\begin{array}{c} b_1^T \\ \hline B_2 \end{array}\right) , \left(\begin{array}{c} C_T \\ \hline C_B \end{array}\right) \leftarrow \left(\begin{array}{c} c_1^T \\ \hline C_2 \end{array}\right) $
2	$\left\{ \begin{array}{c} \left(\frac{C_T}{C_B}\right) = \left(\frac{\widehat{C}_T}{A_{BR}B_B + \widehat{C}_B}\right) \end{array} \right\}$
	endwhile
2,3	$\left\{ \left(\frac{C_T}{C_B} \right) = \left(\frac{\widehat{C}_T}{A_{BR}B_B + \widehat{C}_B} \right) \land \neg (m(A_{TL}) < m(A)) \right\}$
1b	$\{C = AB + \widehat{C} $

Step	Algorithm: $C := AB + C$ where A is symmetric and stored in the lower triangular part
1a	\ {
4	where
2	
3	while do
2,3	
5a	where
6	
8	$C_0 := A_{00}B_0 + a_{01}b_1^T + A_{02}B_2 + C_0$ $a_{10}^T B_0 +$ $A_{20}B_0 + A_{22}B_2 +$
7	
5b	
2	
	endwhile
2,3	$\left\{ \begin{array}{c} & & \\ & & \\ \end{array} \right.$
1b	{

Step	Algorithm: $C := AB + C$ where A is symmetric and stored in the lower triangular part
1a	$\{C = \widehat{C}\}$
4	
	where
2	
3	while do
2,3	^
5a	
	where
6	
	j (
	$C_0 := A_{00}B_0 + a_{01}b_1^T + A_{02}B_2 + C_0$
8	$a_{10}^T B_0 +$
	$A_{20}B_0 + A_{22}B_2 +$
7	
·	
5b	
0	
2	
	endwhile
2,3	$\bigg \left\{ \begin{array}{c} \\ \\ \\ \end{array} \right. \wedge \neg (\begin{array}{c} \\ \\ \end{array} \right. \bigg)$
1b	$\left\{ C = AB + \widehat{C} \right\}$

Step	Algorithm: $C := AB + C$ where A is symmetric and stored in the lower triangular part	
1a	${C = \widehat{C}}$	
4	where	
2	$\left\{ \left(\frac{C_T}{C_B} \right) = \left(\frac{\widehat{C}_T}{A_{BR}B_B + \widehat{C}_B} \right) \right\}$	
3	while do	
2,3	$\left\{ \begin{array}{c} \left(\frac{C_T}{C_B}\right) = \left(\frac{\widehat{C}_T}{A_{BR}B_B + \widehat{C}_B}\right) \wedge \end{array} \right.$	
5a	where	
6		
8	$C_0 := A_{00}B_0 + a_{01}b_1^T + A_{02}B_2 + C_0$ $a_{10}^T B_0 + A_{20}B_0 + A_{22}B_2 +$	
7		
5b		
2	$\left\{ \begin{array}{c} \left(\frac{C_T}{C_B}\right) = \left(\frac{\widehat{C}_T}{A_{BR}B_B + \widehat{C}_B}\right) \end{array} \right.$	
	endwhile	
2,3	$\left\{ \left(\frac{C_T}{C_B} \right) = \left(\frac{\widehat{C}_T}{A_{BR}B_B + \widehat{C}_B} \right) \land \neg () \right\}$	
1b	$\{C = AB + \widehat{C} $	

Step	Algorithm: $C := AB + C$ where A is symmetric and stored in the lower triangular part	
1a	${C = \widehat{C}}$	
4	where	
2	$\left\{ \left(\frac{C_T}{C_B} \right) = \left(\frac{\widehat{C}_T}{A_{BR}B_B + \widehat{C}_B} \right) \right\}$	
3	while $m(A_{TL}) < m(A)$ do	
2,3	$ \left\{ \begin{array}{c} \left(\frac{C_T}{C_B}\right) = \left(\frac{\widehat{C}_T}{A_{BR}B_B + \widehat{C}_B}\right) \wedge m(A_{TL}) < m(A) \end{array} \right. $	
5a	where	
6		
8	$C_0 := A_{00}B_0 + a_{01}b_1^T + A_{02}B_2 + C_0$ $a_{10}^T B_0 +$ $A_{20}B_0 + +A_{22}B_2 +$	
7		
5b		
2	$\left\{ \begin{array}{c} \left(\frac{C_T}{C_B}\right) = \left(\frac{\widehat{C}_T}{A_{BR}B_B + \widehat{C}_B}\right) \end{array} \right.$	
	endwhile	
2,3	$ \left\{ \left(\frac{C_T}{C_B} \right) = \left(\frac{\widehat{C}_T}{A_{BR}B_B + \widehat{C}_B} \right) \land \neg (m(A_{TL}) < m(A)) \right\} $	
1b	$\{C = AB + \widehat{C} $	

Step	Algorithm: $C := AB + C$ where A is symmetric and stored in the lower triangular part
1a	$\{C = \widehat{C}$
4	$A \to \begin{pmatrix} A_{TL} & A_{TR} \\ A_{BL} & A_{BR} \end{pmatrix}, B \to \begin{pmatrix} B_T \\ B_B \end{pmatrix}, C \to \begin{pmatrix} C_T \\ C_B \end{pmatrix}$ where A_{TL} is 0×0 , B_T has 0 rows, C_T has 0 rows
2	$\left\{ \left(\frac{C_T}{C_B} \right) = \left(\frac{\widehat{C}_T}{A_{BR}B_B + \widehat{C}_B} \right) \right\}$
3	while $m(A_{m}) < m(A)$ do
2,3	$ \left\{ \begin{array}{c} \left(\frac{C_T}{C_B}\right) = \left(\frac{\widehat{C}_T}{A_{BR}B_B + \widehat{C}_B}\right) \land m(A_{TL}) < m(A) \end{array} \right\} $
5a	where
6	
8	$C_0 := A_{00}B_0 + a_{01}b_1^T + A_{02}B_2 + C_0$ $a_{10}^T B_0 +$ $A_{20}B_0 + A_{22}B_2 +$
7	
5b	
2	$\left\{ \begin{array}{c} \left(\frac{C_T}{C_B}\right) = \left(\frac{\widehat{C}_T}{A_{BR}B_B + \widehat{C}_B}\right) \end{array} \right\}$
	endwhile
2,3	$ \left\{ \left(\frac{C_T}{C_B} \right) = \left(\frac{\widehat{C}_T}{A_{BR}B_B + \widehat{C}_B} \right) \land \neg (m(A_{TL}) < m(A)) \right\} $
1b	$\{C = AB + \widehat{C} $ }

Step	Algorithm: $C := AB + C$ where A is symmetric and stored in the lower triangular part
1a	$\{C = \widehat{C}\}$
4	$A \to \begin{pmatrix} A_{TL} & A_{TR} \\ A_{BL} & A_{BR} \end{pmatrix}, B \to \begin{pmatrix} B_T \\ B_B \end{pmatrix}, C \to \begin{pmatrix} C_T \\ C_B \end{pmatrix}$ where A_{TL} is 0×0 , B_T has 0 rows, C_T has 0 rows
2	$\left\{ \left(\frac{C_T}{C_B} \right) = \left(\frac{\widehat{C}_T}{A_{BR}B_B + \widehat{C}_B} \right) \right.$
3	while $m(A_{TL}) < m(A)$ do
2,3	$ \left\{ \left(\frac{C_T}{C_B} \right) = \left(\frac{\widehat{C}_T}{A_{BR}B_B + \widehat{C}_B} \right) \land m(A_{TL}) < m(A) \right\} $
5a	$ \begin{pmatrix} A_{TL} & A_{TR} \\ A_{BL} & A_{BR} \end{pmatrix} \rightarrow \begin{pmatrix} A_{00} & a_{01} & A_{02} \\ a_{10}^T & \alpha_{11} & a_{12}^T \\ A_{20} & a_{21} & A_{22} \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_T \\ C_B \end{pmatrix} \rightarrow \begin{pmatrix} C_0 \\ C_1^T \\ C_2 \end{pmatrix} $ where α_{11} is 1×1 , b_1 has 1 row, c_1 has 1 row
6	
0	$C_0 := A_{00}B_0 + a_{01}b_1^T + A_{02}B_2 + C_0$
8	
7	
5b	$ \left(\begin{array}{c c} A_{TL} & A_{TR} \\ \hline A_{BL} & A_{BR} \end{array}\right) \leftarrow \left(\begin{array}{c c} A_{00} & a_{01} & A_{02} \\ a_{10}^T & \alpha_{11} & a_{12}^T \\ \hline A_{20} & a_{21} & A_{22} \end{array}\right), \left(\begin{array}{c} B_T \\ B_B \end{array}\right) \leftarrow \left(\begin{array}{c} B_0 \\ b_1^T \\ \hline B_2 \end{array}\right), \left(\begin{array}{c} C_T \\ C_B \end{array}\right) \leftarrow \left(\begin{array}{c} C_0 \\ c_1^T \\ \hline C_2 \end{array}\right) $
2	$\left\{ \begin{array}{c} \left(\frac{C_T}{C_B}\right) = \left(\frac{\widehat{C}_T}{A_{BR}B_B + \widehat{C}_B}\right) \end{array} \right.$
	endwhile
2,3	$\left\{ \left(\frac{C_T}{C_B} \right) = \left(\frac{\widehat{C}_T}{A_{BR}B_B + \widehat{C}_B} \right) \land \neg (m(A_{TL}) < m(A)) \right\}$
1b	$\{C = AB + \widehat{C}$

Step	Algorithm: $C := AB + C$ where A is symmetric and stored in the lower triangular part
1a	$\{C = \widehat{C}$
4	$A \to \begin{pmatrix} A_{TL} & A_{TR} \\ A_{BL} & A_{BR} \end{pmatrix}, B \to \begin{pmatrix} B_T \\ B_B \end{pmatrix}, C \to \begin{pmatrix} C_T \\ C_B \end{pmatrix}$ where A_{TL} is 0×0 , B_T has 0 rows, C_T has 0 rows
2	$\left\{ \left(\frac{C_T}{C_B} \right) = \left(\frac{\widehat{C}_T}{A_{BR}B_B + \widehat{C}_B} \right) \right\}$
3	while $m(A_{TL}) < m(A)$ do
2,3	$\left\{ \left(\frac{C_T}{C_B} \right) = \left(\frac{\widehat{C}_T}{A_{BR}B_B + \widehat{C}_B} \right) \land m(A_{TL}) < m(A) \right\}$
5a	$ \left(\begin{array}{c c} A_{TL} & A_{TR} \\ \hline A_{BL} & A_{BR} \end{array}\right) \rightarrow \left(\begin{array}{c c} A_{00} & a_{01} & A_{02} \\ \hline a_{10}^T & \alpha_{11} & a_{12}^T \\ A_{20} & a_{21} & A_{22} \end{array}\right), \left(\begin{array}{c} B_T \\ B_B \end{array}\right) \rightarrow \left(\begin{array}{c} B_0 \\ \hline b_1^T \\ B_2 \end{array}\right), \left(\begin{array}{c} C_T \\ C_B \end{array}\right) \rightarrow \left(\begin{array}{c} C_0 \\ C_1^T \\ C_2 \end{array}\right) $ where α_{11} is 1×1 , b_1 has 1 row, c_1 has 1 row
6	$ \left\{ \begin{array}{c} \begin{pmatrix} C_0 \\ c_1^T \\ C_2 \end{pmatrix} = \begin{pmatrix} & & \widehat{C}_0 \\ & & \widehat{c}_1^T \\ & & A_{22}B_2 + \widehat{C}_2 \end{pmatrix} \right. $
8	$C_0 := A_{00}B_0 + a_{01}b_1^T + A_{02}B_2 + C_0$ $a_{10}^T B_0 + A_{20}B_0 + A_{22}B_2 +$
7	
5b	$\left(\begin{array}{c c} A_{BL} & A_{BR} \end{array}\right) \left(\begin{array}{c c} A_{20} & a_{21} & A_{22} \end{array}\right) \left(\begin{array}{c} B_{B} \end{array}\right) \left(\begin{array}{c} C_{B} \end{array}\right) \left(\begin{array}{c} C_{B} \end{array}\right)$
2	$\left\{ \begin{array}{c} \left(\frac{C_T}{C_B}\right) = \left(\frac{\widehat{C}_T}{A_{BR}B_B + \widehat{C}_B}\right) \end{array} \right\}$
	endwhile
2,3	$\left\{ \left(\frac{C_T}{C_B} \right) = \left(\frac{\widehat{C}_T}{A_{BR}B_B + \widehat{C}_B} \right) \land \neg (m(A_{TL}) < m(A)) \right\}$
1b	$\{C = AB + \widehat{C} $ }

Step	Algorithm: $C := AB + C$ where A is symmetric and stored in the lower triangular part
1a	$\{C = \widehat{C}$
4	$A \to \begin{pmatrix} A_{TL} & A_{TR} \\ A_{BL} & A_{BR} \end{pmatrix}, B \to \begin{pmatrix} B_T \\ B_B \end{pmatrix}, C \to \begin{pmatrix} C_T \\ C_B \end{pmatrix}$ where A_{TL} is 0×0 , B_T has 0 rows, C_T has 0 rows
2	$\left\{ \left(\frac{C_T}{C_B} \right) = \left(\frac{\widehat{C}_T}{A_{BR}B_B + \widehat{C}_B} \right) \right\}$
3	while $m(A_{TL}) < m(A)$ do
2,3	$\left\{ \left(\frac{C_T}{C_B} \right) = \left(\frac{\widehat{C}_T}{A_{BR}B_B + \widehat{C}_B} \right) \land m(A_{TL}) < m(A) \right\}$
5a	$ \left(\begin{array}{c c} A_{TL} & A_{TR} \\ \hline A_{BL} & A_{BR} \end{array}\right) \rightarrow \left(\begin{array}{c c} A_{00} & a_{01} & A_{02} \\ \hline a_{10}^T & \alpha_{11} & a_{12}^T \\ A_{20} & a_{21} & A_{22} \end{array}\right), \left(\begin{array}{c} B_T \\ B_B \end{array}\right) \rightarrow \left(\begin{array}{c} B_0 \\ \hline b_1^T \\ B_2 \end{array}\right), \left(\begin{array}{c} C_T \\ C_B \end{array}\right) \rightarrow \left(\begin{array}{c} C_0 \\ \hline c_1^T \\ C_2 \end{array}\right) $ where α_{11} is 1×1 , b_1 has 1 row, c_1 has 1 row
6	$ \left\{ \begin{array}{c} \begin{pmatrix} C_0 \\ c_1^T \\ C_2 \end{pmatrix} = \begin{pmatrix} & \widehat{C}_0 \\ & \widehat{c}_1^T \\ & A_{22}B_2 + \widehat{C}_2 \end{pmatrix} \right. $
8	$C_0 := A_{00}B_0 + a_{01}b_1^T + A_{02}B_2 + C_0$ $a_{10}^T B_0 +$ $A_{20}B_0 + A_{22}B_2 +$
7	$ \begin{cases} \begin{pmatrix} C_0 \\ c_1^T \\ C_2 \end{pmatrix} = \begin{pmatrix} & \widehat{C}_0 \\ \alpha_{11}b_1^T + a_{21}^T B_2 + \widehat{c}_1^T \\ a_{21}b_1^T + A_{22}B_2 + \widehat{C}_2 \end{pmatrix} $
5b	$\begin{pmatrix} A_{BL} \mid A_{BR} \end{pmatrix} \qquad \begin{pmatrix} \overline{A_{20}} \mid A_{22} \end{pmatrix} \qquad \begin{pmatrix} B_{B} \end{pmatrix} \qquad \begin{pmatrix} \overline{B_{2}} \end{pmatrix} \qquad \begin{pmatrix} \overline{C_{B}} \end{pmatrix} \qquad \begin{pmatrix} \overline{C_{2}} \end{pmatrix}$
2	$\left\{ \begin{array}{c} \left(\frac{C_T}{C_B}\right) = \left(\frac{\widehat{C}_T}{A_{BR}B_B + \widehat{C}_B}\right) \end{array} \right\}$
	endwhile
2,3	$\left\{ \left(\frac{C_T}{C_B} \right) = \left(\frac{\widehat{C}_T}{A_{BR}B_B + \widehat{C}_B} \right) \land \neg (m(A_{TL}) < m(A)) \right\}$
1b	$\{C = AB + \widehat{C} $ }

Step	Algorithm: $C := AB + C$ where A is symmetric and stored in the lower triangular part
1a	${C = \widehat{C}}$
4	$A \to \begin{pmatrix} A_{TL} & A_{TR} \\ A_{BL} & A_{BR} \end{pmatrix}, B \to \begin{pmatrix} B_T \\ B_B \end{pmatrix}, C \to \begin{pmatrix} C_T \\ C_B \end{pmatrix}$ where A_{TL} is 0×0 , B_T has 0 rows, C_T has 0 rows
2	$\left\{ \left(\frac{C_T}{C_B} \right) = \left(\frac{\widehat{C}_T}{A_{BR}B_B + \widehat{C}_B} \right) \right\}$
3	while $m(A_{TL}) < m(A)$ do
2,3	$\left\{ \begin{array}{c} \left(\frac{C_T}{C_B}\right) = \left(\frac{\widehat{C}_T}{A_{BR}B_B + \widehat{C}_B}\right) \land m(A_{TL}) < m(A) \end{array} \right\}$
5a	$ \left(\begin{array}{c c} A_{TL} & A_{TR} \\ \hline A_{BL} & A_{BR} \end{array}\right) \rightarrow \left(\begin{array}{c c} A_{00} & a_{01} & A_{02} \\ \hline a_{10}^T & \alpha_{11} & a_{12}^T \\ A_{20} & a_{21} & A_{22} \end{array}\right), \left(\begin{array}{c} B_T \\ B_B \end{array}\right) \rightarrow \left(\begin{array}{c} B_0 \\ \hline b_1^T \\ B_2 \end{array}\right), \left(\begin{array}{c} C_T \\ C_B \end{array}\right) \rightarrow \left(\begin{array}{c} C_0 \\ C_1^T \\ C_2 \end{array}\right) $ where α_{11} is 1×1 , b_1 has 1 row, c_1 has 1 row
6	$\left\{ \begin{array}{c} \begin{pmatrix} C_0 \\ c_1^T \\ C_2 \end{pmatrix} = \begin{pmatrix} & \widehat{C}_0 \\ & \widehat{c}_1^T \\ & A_{22}B_2 + \widehat{C}_2 \end{pmatrix} \right.$
8	$C_0 := A_{00}B_0 + a_{01}b_1^T + A_{02}B_2 + C_0$ $c_1^T := a_{10}^T B_0 + \alpha_{11}b_1^T + a_{12}^T B_2 + c_1^T$ $C_2 := A_{20}B_0 + a_{21}b_1^T + A_{22}B_2 + C_2$
7	$ \begin{cases} \begin{pmatrix} C_0 \\ c_1^T \\ C_2 \end{pmatrix} = \begin{pmatrix} & \widehat{C}_0 \\ & \alpha_{11}b_1^T + a_{21}^T B_2 + \widehat{c}_1^T \\ & a_{21}b_1^T + A_{22}B_2 + \widehat{C}_2 \end{pmatrix} $
5b	$\begin{pmatrix} A_{BL} & A_{BR} \end{pmatrix} \qquad \begin{pmatrix} \overline{A_{20}} & a_{21} & A_{22} \end{pmatrix} \qquad \begin{pmatrix} B_{B} \end{pmatrix} \qquad \begin{pmatrix} \overline{B_{2}} \end{pmatrix} \qquad \begin{pmatrix} C_{B} \end{pmatrix} \qquad \begin{pmatrix} \overline{C_{2}} \end{pmatrix}$
2	$\left\{ \begin{array}{c} C_T \\ \hline C_B \end{array} \right) = \left(\begin{array}{c} \hline \widehat{C}_T \\ \hline A_{BR}B_B + \widehat{C}_B \end{array} \right)$
	endwhile
2,3	$\left\{ \left(\frac{C_T}{C_B} \right) = \left(\frac{\widehat{C}_T}{A_{BR}B_B + \widehat{C}_B} \right) \land \neg (m(A_{TL}) < m(A)) \right\}$
1b	$\{C = AB + \widehat{C} $

Algorithm: $C := AB + C$ where A is symmetric and stored in the lower triangular part
$A \to \begin{pmatrix} A_{TL} & A_{TR} \\ A_{BL} & A_{BR} \end{pmatrix}, B \to \begin{pmatrix} B_T \\ B_B \end{pmatrix}, C \to \begin{pmatrix} C_T \\ C_B \end{pmatrix}$ where A_{TL} is 0×0 , B_T has 0 rows, C_T has 0 rows
while $m(A_{TL}) < m(A)$ do
$ \left(\begin{array}{c c} A_{TL} & A_{TR} \\ \hline A_{BL} & A_{BR} \end{array}\right) \rightarrow \left(\begin{array}{c c} A_{00} & a_{01} & A_{02} \\ \hline a_{10}^T & \alpha_{11} & a_{12}^T \\ A_{20} & a_{21} & A_{22} \end{array}\right), \left(\begin{array}{c} B_T \\ B_B \end{array}\right) \rightarrow \left(\begin{array}{c} B_0 \\ \hline b_1^T \\ B_2 \end{array}\right), \left(\begin{array}{c} C_T \\ C_B \end{array}\right) \rightarrow \left(\begin{array}{c} C_0 \\ \hline c_1^T \\ C_2 \end{array}\right) $ where α_{11} is 1×1 , b_1 has 1 row, c_1 has 1 row
$C_0 := A_{00}B_0 + a_{01}b_1^T + A_{02}B_2 + C_0$ $c_1^T := a_{10}^T B_0 + \alpha_{11}b_1^T + a_{12}^T B_2 + c_1^T$ $C_2 := A_{20}B_0 + a_{21}b_1^T + A_{22}B_2 + C_2$
$ \left(\begin{array}{c c} A_{TL} & A_{TR} \\ A_{BL} & A_{BR} \end{array}\right) \leftarrow \left(\begin{array}{c c} A_{00} & a_{01} & A_{02} \\ a_{10}^T & \alpha_{11} & a_{12}^T \\ A_{20} & a_{21} & A_{22} \end{array}\right), \left(\begin{array}{c} B_T \\ B_B \end{array}\right) \leftarrow \left(\begin{array}{c} B_0 \\ b_1^T \\ B_2 \end{array}\right), \left(\begin{array}{c} C_T \\ C_B \end{array}\right) \leftarrow \left(\begin{array}{c} C_0 \\ c_1^T \\ C_2 \end{array}\right) $
endwhile

Algorithm: C := AB + C where A is symmetric and stored in the lower triangular part

$$A o \left(\begin{array}{c|c} A_{TL} & A_{TR} \\ \hline A_{BL} & A_{BR} \end{array} \right) , B o \left(\begin{array}{c|c} B_T \\ \hline B_B \end{array} \right) , C o \left(\begin{array}{c|c} C_T \\ \hline C_B \end{array} \right)$$

where A_{TL} is 0×0 , B_T has 0 rows, C_T has 0 rows

while $m(A_{TL}) < m(A)$ do

$$\left(\begin{array}{c|c} A_{TL} & A_{TR} \\ \hline A_{BL} & A_{BR} \end{array}\right) \to \left(\begin{array}{c|c} A_{00} & a_{01} & A_{02} \\ \hline a_{10}^T & \alpha_{11} & a_{12}^T \\ A_{20} & a_{21} & A_{22} \end{array}\right), \left(\begin{array}{c} B_T \\ \hline B_B \end{array}\right) \to \left(\begin{array}{c} B_0 \\ \hline b_1^T \\ B_2 \end{array}\right), \left(\begin{array}{c} C_T \\ \hline C_B \end{array}\right) \to \left(\begin{array}{c} C_0 \\ \hline c_1^T \\ \hline C_2 \end{array}\right)$$

where α_{11} is 1×1 , b_1 has 1 row, c_1 has 1 row

$$c_1^T := \alpha_{11}b_1^T + a_{12}^T B_2 + c_1^T$$
 $C_2 := a_{21}b_1^T C_2$

$$\left(\begin{array}{c|c|c}
A_{TL} & A_{TR} \\
\hline
A_{BL} & A_{BR}
\end{array}\right) \leftarrow \left(\begin{array}{c|c}
A_{00} & a_{01} & A_{02} \\
a_{10}^T & \alpha_{11} & a_{12}^T \\
\hline
A_{20} & a_{21} & A_{22}
\end{array}\right), \left(\begin{array}{c}
B_T \\
B_B
\end{array}\right) \leftarrow \left(\begin{array}{c}
B_0 \\
b_1^T \\
\hline
B_2
\end{array}\right), \left(\begin{array}{c}
C_T \\
C_B
\end{array}\right) \leftarrow \left(\begin{array}{c}
C_0 \\
c_1^T \\
\hline
C_2
\end{array}\right)$$

endwhile