Step	Algorithm: $C := AB + C$
1a	$\{C = \widehat{C}$ $\}$
4	$A \rightarrow \left(A_L \,\middle\|\, A_R \right)$, $B \rightarrow \left(\begin{array}{c} B_T \\ \hline B_B \end{array} \right)$ where A_R has 0 columns, B_B has 0 rows
2	$\{C = A_R B_B + \widehat{C}$ $\}$
3	while $n(A_R) < n(A)$ do
2,3	$\left\{ \quad C = A_R B_B + \widehat{C} \wedge n(A_R) < n(A) \right\}$
5a	$\left(A_L \,\middle\|\, A_R \right) \rightarrow \left(A_0 \;\; a_1 \,\middle\|\, A_2 \right)$, $\left(\begin{array}{c} B_T \\ \hline B_B \end{array} \right) \rightarrow \left(\begin{array}{c} B_0 \\ b_1^T \\ \hline B_2 \end{array} \right)$ where a_1 has 1 column, b_1 has 1 row
6	$\{ \quad C = A_2 B_2 + \widehat{C}$ $\}$
8	$C := a_1 b_1^T + C$
7	$\{ \quad C = a_1 b_1^T + A_2 B_2 + \widehat{C}$ $\}$
5b	$A \rightarrow \left(A_L \,\middle\|\, A_R \right) \leftarrow \left(A_0 \,\middle\|\, a_1 \;\; A_2 \right)$, $\left(\begin{array}{c} B_T \\ \hline B_B \end{array} \right) \leftarrow \left(\begin{array}{c} B_0 \\ \hline b_1^T \\ B_2 \end{array} \right)$
2	$\{ \quad C = A_R B_B + \widehat{C}$ $\}$
	endwhile
2,3	$\{C = A_R B_B + \widehat{C} \wedge \neg(n(A_R) < n(A))$ $\}$
1b	$\{C = AB + \widehat{C})$ $\}$

Step	Algorithm: $C := AB + C$
1a	$\{ \qquad \}$
4	where
2	$\{ \qquad \}$
3	while do
2,3	$\left\{ \quad \wedge \quad \right\}$
5a	where
6	$\{ \qquad \}$
8	
7	$\{ \qquad \}$
5b	
2	$\{ \qquad \}$
	endwhile
2,3	$\{ \quad \wedge \neg(\quad) \quad \}$
1b	$\{ \qquad \}$

Step	Algorithm: $C := AB + C$
1a	$\{ C = \widehat{C}$ $\}$
4	where
2	$\{$ $\}$
3	while do
2,3	$\left\{ \wedge \right\}$
5a	where
6	$\{$ $\}$
8	
7	$\{$ $\}$
5b	
2	$\{$ $\}$
	endwhile
2,3	$\{ \wedge \neg ( )$ $\}$
1b	$\{ C = AB + \widehat{C})$ $\}$

Step	Algorithm: $C := AB + C$
1a	$\{C = \widehat{C}$ $\}$
4	where
2	$\{C = A_R B_B + \widehat{C}$ $\}$
3	while do
2,3	$\left\{ C = A_R B_B + \widehat{C} \wedge \right\}$
5a	where
6	$\{$ $\}$
8	
7	$\{$ $\}$
5b	
2	$\{$ $C = A_R B_B + \widehat{C}$ $\}$
	endwhile
2,3	$\{C = A_R B_B + \widehat{C} \wedge \neg($ $)$ $\}$
1b	$\{C = AB + \widehat{C})$ $\}$

Step	Algorithm: $C := AB + C$
1a	$\{ C = \widehat{C} \}$
4	where
2	$\{ C = A_R B_B + \widehat{C} \}$
3	while $n(A_R) < n(A)$ do
2,3	$\left\{ \quad C = A_R B_B + \widehat{C} \wedge n(A_R) < n(A) \right\}$
5a	where
6	$\{ \}$
8	
7	$\{ \}$
5b	
2	$\{ \quad C = A_R B_B + \widehat{C} \}$
	endwhile
2,3	$\{ C = A_R B_B + \widehat{C} \wedge \neg (n(A_R) < n(A)) \}$
1b	$\{ C = AB + \widehat{C}) \}$

Step	Algorithm: $C := AB + C$
1a	$\{ C = \widehat{C} \quad \}$
4	$A \rightarrow \left(A_L \,\middle\|\, A_R \right)$, $B \rightarrow \left(\frac{B_T}{B_B} \right)$ where A_R has 0 columns, B_B has 0 rows
2	$\{ C = A_R B_B + \widehat{C} \quad \}$
3	while $n(A_R) < n(A)$ do
2,3	$\left\{ \quad C = A_R B_B + \widehat{C} \wedge n(A_R) < n(A) \quad \right\}$
5a	where
6	$\{ \quad \}$
8	
7	$\{ \quad \}$
5b	
2	$\{ \quad C = A_R B_B + \widehat{C} \quad \}$
	endwhile
2,3	$\{ C = A_R B_B + \widehat{C} \wedge \neg(n(A_R) < n(A)) \quad \}$
1b	$\{ C = AB + \widehat{C}) \quad \}$

Step	Algorithm: $C := AB + C$
1a	$\{ C = \widehat{C} \}$
4	$A \rightarrow \left(A_L \,\middle\|\, A_R \right)$, $B \rightarrow \left(\frac{B_T}{B_B} \right)$ where A_R has 0 columns, B_B has 0 rows
2	$\{ C = A_R B_B + \widehat{C} \}$
3	while $n(A_R) < n(A)$ do
2,3	$\{ C = A_R B_B + \widehat{C} \wedge n(A_R) < n(A) \}$
5a	$\left(A_L \,\middle\|\, A_R \right) \rightarrow \left(A_0 \;\; a_1 \,\middle\|\, A_2 \right)$, $\left(\frac{B_T}{B_B} \right) \rightarrow \begin{pmatrix} B_0 \\ b_1^T \\ \hline B_2 \end{pmatrix}$ where a_1 has 1 column, b_1 has 1 row
6	$\{ \}$
8	
7	$\{ \}$
5b	$A \rightarrow \left(A_L \,\middle\|\, A_R \right) \leftarrow \left(A_0 \,\middle\|\, a_1 \;\; A_2 \right)$, $\left(\frac{B_T}{B_B} \right) \leftarrow \begin{pmatrix} B_0 \\ \hline b_1^T \\ B_2 \end{pmatrix}$
2	$\{ C = A_R B_B + \widehat{C} \}$
	endwhile
2,3	$\{ C = A_R B_B + \widehat{C} \wedge \neg (n(A_R) < n(A)) \}$
1b	$\{ C = AB + \widehat{C}) \}$

Step	Algorithm: $C := AB + C$
1a	$\{C = \widehat{C}$ $\}$
4	$A \rightarrow \left(A_L \,\middle\|\, A_R \right)$, $B \rightarrow \left(\begin{array}{c} B_T \\ \hline B_B \end{array} \right)$ where A_R has 0 columns, B_B has 0 rows
2	$\{C = A_R B_B + \widehat{C}$ $\}$
3	while $n(A_R) < n(A)$ do
2,3	$\{$ $C = A_R B_B + \widehat{C} \wedge n(A_R) < n(A)$ $\}$
5a	$\left(A_L \,\middle\|\, A_R \right) \rightarrow \left(A_0 \;\; a_1 \,\middle\|\, A_2 \right)$, $\left(\begin{array}{c} B_T \\ \hline B_B \end{array} \right) \rightarrow \left(\begin{array}{c} B_0 \\ b_1^T \\ \hline B_2 \end{array} \right)$ where a_1 has 1 column, b_1 has 1 row
6	$\{$ $C = A_2 B_2 + \widehat{C}$ $\}$
8	
7	$\{$ $\}$
5b	$A \rightarrow \left(A_L \,\middle\|\, A_R \right) \leftarrow \left(A_0 \,\middle\|\, a_1 \;\; A_2 \right)$, $\left(\begin{array}{c} B_T \\ \hline B_B \end{array} \right) \leftarrow \left(\begin{array}{c} B_0 \\ \hline b_1^T \\ B_2 \end{array} \right)$
2	$\{$ $C = A_R B_B + \widehat{C}$ $\}$
	endwhile
2,3	$\{C = A_R B_B + \widehat{C} \wedge \neg(n(A_R) < n(A))$ $\}$
1b	$\{C = AB + \widehat{C})$ $\}$

Step	Algorithm: $C := AB + C$
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2	$\{ C = A_R B_B + \widehat{C} \}$
3	while $n(A_R) < n(A)$ do
2,3	$\left\{ C = A_R B_B + \widehat{C} \wedge n(A_R) < n(A) \right\}$
5a	$\left(A_L \,\Big\|\, A_R \right) \rightarrow \left(A_0 \;\; a_1 \,\Big\|\, A_2 \right)$, $\left(\begin{array}{c} B_T \\ \hline B_B \end{array} \right) \rightarrow \left(\begin{array}{c} B_0 \\ b_1^T \\ \hline B_2 \end{array} \right)$ where a_1 has 1 column, b_1 has 1 row
6	$\{ C = A_2 B_2 + \widehat{C} \}$
8	
7	$\{ C = a_1 b_1^T + A_2 B_2 + \widehat{C} \}$
5b	$A \rightarrow \left(A_L \,\Big\|\, A_R \right) \leftarrow \left(A_0 \,\Big\|\, a_1 \;\; A_2 \right)$, $\left(\begin{array}{c} B_T \\ \hline B_B \end{array} \right) \leftarrow \left(\begin{array}{c} B_0 \\ \hline b_1^T \\ B_2 \end{array} \right)$
2	$\{ C = A_R B_B + \widehat{C} \}$
	endwhile
2,3	$\{ C = A_R B_B + \widehat{C} \wedge \neg (n(A_R) < n(A)) \}$
1b	$\{ C = AB + \widehat{C}) \}$

Step	Algorithm: $C := AB + C$
1a	$\{C = \widehat{C}$ $\}$
4	$A \rightarrow \left(A_L \,\big|\, A_R \right)$, $B \rightarrow \left(\frac{B_T}{B_B} \right)$ where A_R has 0 columns, B_B has 0 rows
2	$\{C = A_R B_B + \widehat{C}$ $\}$
3	while $n(A_R) < n(A)$ do
2,3	$\{$ $C = A_R B_B + \widehat{C} \wedge n(A_R) < n(A)$ $\}$
5a	$\left(A_L \,\big|\, A_R \right) \rightarrow \left(A_0 \;\; a_1 \,\big|\, A_2 \right)$, $\left(\frac{B_T}{B_B} \right) \rightarrow \left(\begin{array}{c} B_0 \\ b_1^T \\ \hline B_2 \end{array} \right)$ where a_1 has 1 column, b_1 has 1 row
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2	$\{$ $C = A_R B_B + \widehat{C}$ $\}$
	endwhile
2,3	$\{C = A_R B_B + \widehat{C} \wedge \neg(n(A_R) < n(A))$ $\}$
1b	$\{C = AB + \widehat{C})$ $\}$

Algorithm: $C := AB + C$

$$A \rightarrow \left(\begin{array}{c|c} A_L & A_R \end{array} \right), \quad B \rightarrow \left(\begin{array}{c} B_T \\ \hline B_B \end{array} \right)$$

where A_R has 0 columns, B_B has 0 rows

while $n(A_R) < n(A)$ do

$$\left(\begin{array}{c|c} A_L & A_R \end{array} \right) \rightarrow \left(\begin{array}{cc|c} A_0 & a_1 & A_2 \end{array} \right), \quad \left(\begin{array}{c} B_T \\ \hline B_B \end{array} \right) \rightarrow \left(\begin{array}{c} B_0 \\ b_1^T \\ \hline B_2 \end{array} \right)$$

where a_1 has 1 column, b_1 has 1 row

$C := a_1 b_1^T + C$

$$A \rightarrow \left(\begin{array}{c|c} A_L & A_R \end{array} \right) \leftarrow \left(\begin{array}{c|cc} A_0 & a_1 & A_2 \end{array} \right), \quad \left(\begin{array}{c} B_T \\ \hline B_B \end{array} \right) \leftarrow \left(\begin{array}{c} B_0 \\ \hline b_1^T \\ B_2 \end{array} \right)$$

endwhile

Algorithm: $C := AB + C$

$$A \rightarrow \left(A_L \,\Big|\, A_R \right), \; B \rightarrow \left(\begin{array}{c} B_T \\ \hline B_B \end{array} \right)$$

where A_R has 0 columns, B_B has 0 rows

while $n(A_R) < n(A)$ **do**

$$\left(A_L \,\Big|\, A_R \right) \rightarrow \left(A_0 \;\; a_1 \,\Big|\, A_2 \right), \; \left(\begin{array}{c} B_T \\ \hline B_B \end{array} \right) \rightarrow \left(\begin{array}{c} B_0 \\ b_1^T \\ \hline B_2 \end{array} \right)$$

where a_1 has 1 column, b_1 has 1 row

$$C := a_1 b_1^T + C$$

$$A \rightarrow \left(A_L \,\Big|\, A_R \right) \leftarrow \left(A_0 \,\Big|\, a_1 \;\; A_2 \right), \; \left(\begin{array}{c} B_T \\ \hline B_B \end{array} \right) \leftarrow \left(\begin{array}{c} B_0 \\ \hline b_1^T \\ B_2 \end{array} \right)$$

endwhile