

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

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

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

where  $A_L$  has 0 columns,  $B_T$  has 0 rows

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

$$\left( A_L \left| A_R \right. \right) \rightarrow \left( A_0 \left| a_1 \ A_2 \right. \right), \left( \frac{B_T}{B_B} \right) \rightarrow \left( \frac{B_0}{b_1^T} \right)$$

where  $a_1$  has 1 column,  $b_1$  has 1 row

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

$$A \rightarrow \left( A_L \left| A_R \right. \right) \leftarrow \left( A_0 \ a_1 \left| A_2 \right. \right), \left( \frac{B_T}{B_B} \right) \leftarrow \left( \frac{B_0}{b_1^T} \right)$$

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