Step	Algorithm: $y := Ax + y$
1a	$\{ y = \widehat{y} \}$
4	$A \rightarrow \left(\frac{A_T}{A_B} \right)$, $y \rightarrow \left(\frac{y_T}{y_B} \right)$ where A_B has 0 rows, y_B has 0 rows
2	$\left\{ \left(\frac{y_T}{y_B} \right) = \left(\frac{\widehat{y}_T}{A_B x + \widehat{y}_B} \right) \right\}$
3	while $m(A_B) < m(A)$ do
2,3	$\left\{ \left(\frac{y_T}{y_B} \right) = \left(\frac{\widehat{y}_T}{A_B x + \widehat{y}_B} \right) \wedge m(A_B) < m(A) \right\}$
5a	$\left(\frac{A_T}{A_B} \right) \rightarrow \begin{pmatrix} A_0 \\ a_1^T \\ \hline A_2 \end{pmatrix}$, $\left(\frac{y_T}{y_B} \right) \rightarrow \begin{pmatrix} y_0 \\ \psi_1 \\ \hline y_2 \end{pmatrix}$ where a_1 has 1 row, ψ_1 has 1 row
6	$\left\{ \begin{pmatrix} y_0 \\ \psi_1 \\ y_2 \end{pmatrix} = \begin{pmatrix} \widehat{y}_0 \\ \widehat{\psi}_1 \\ A_2 x + \widehat{y}_2 \end{pmatrix} \right\}$
8	$\psi_1 := a_1^T x + \psi_1$
7	$\left\{ \begin{pmatrix} y_0 \\ \psi_1 \\ y_2 \end{pmatrix} = \begin{pmatrix} \widehat{y}_0 \\ a_1^T x + \widehat{\psi}_1 \\ A_2 x + \widehat{y}_2 \end{pmatrix} \right\}$
5b	$\left(\frac{A_T}{A_B} \right) \leftarrow \begin{pmatrix} A_0 \\ \hline a_1^T \\ A_2 \end{pmatrix}$, $\left(\frac{y_T}{y_B} \right) \leftarrow \begin{pmatrix} y_0 \\ \hline \psi_1 \\ y_2 \end{pmatrix}$
2	$\left\{ \left(\frac{y_T}{y_B} \right) = \left(\frac{\widehat{y}_T}{A_B x + \widehat{y}_B} \right) \right\}$
	endwhile
2,3	$\left\{ \left(\frac{y_T}{y_B} \right) = \left(\frac{\widehat{y}_T}{A_B x + \widehat{y}_B} \right) \wedge \neg (m(A_B) < m(A)) \right\}$
1b	$\{ y = Ax + \widehat{y} \}$

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

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

Step	Algorithm: $y := Ax + y$
1a	$\{ y = \widehat{y} \}$
4	where
2	$\left\{ \left(\frac{y_T}{y_B} \right) = \left(\frac{\widehat{y}_T}{A_B x + \widehat{y}_B} \right) \right\}$
3	while do
2,3	$\left\{ \left(\frac{y_T}{y_B} \right) = \left(\frac{\widehat{y}_T}{A_B x + \widehat{y}_B} \right) \wedge \right\}$
5a	where
6	$\left\{ \right\}$
8	
7	$\left\{ \right\}$
5b	
2	$\left\{ \left(\frac{y_T}{y_B} \right) = \left(\frac{\widehat{y}_T}{A_B x + \widehat{y}_B} \right) \right\}$
	endwhile
2,3	$\left\{ \left(\frac{y_T}{y_B} \right) = \left(\frac{\widehat{y}_T}{A_B x + \widehat{y}_B} \right) \wedge \neg(\quad) \right\}$
1b	$\{ y = Ax + \widehat{y}) \}$

Step	Algorithm: $y := Ax + y$
1a	$\{ y = \widehat{y} \}$
4	where
2	$\left\{ \left(\begin{array}{c} y_T \\ \hline y_B \end{array}\right) = \left(\begin{array}{c} \widehat{y}_T \\ \hline A_B x + \widehat{y}_B \end{array}\right) \right\}$
3	while $m(A_B) < m(A)$ do
2,3	$\left\{ \left(\begin{array}{c} y_T \\ \hline y_B \end{array}\right) = \left(\begin{array}{c} \widehat{y}_T \\ \hline A_B x + \widehat{y}_B \end{array}\right) \wedge m(A_B) < m(A) \right\}$
5a	where
6	$\{ \}$
8	
7	$\{ \}$
5b	
2	$\left\{ \left(\begin{array}{c} y_T \\ \hline y_B \end{array}\right) = \left(\begin{array}{c} \widehat{y}_T \\ \hline A_B x + \widehat{y}_B \end{array}\right) \right\}$
	endwhile
2,3	$\left\{ \left(\begin{array}{c} y_T \\ \hline y_B \end{array}\right) = \left(\begin{array}{c} \widehat{y}_T \\ \hline A_B x + \widehat{y}_B \end{array}\right) \wedge \neg(m(A_B) < m(A)) \right\}$
1b	$\{ y = Ax + \widehat{y}) \}$

Step	Algorithm: $y := Ax + y$
1a	$\{ y = \widehat{y} \}$
4	$A \rightarrow \left(\begin{array}{c} A_T \\ \hline A_B \end{array} \right)$, $y \rightarrow \left(\begin{array}{c} y_T \\ \hline y_B \end{array} \right)$ where A_B has 0 rows, y_B has 0 rows
2	$\left\{ \left(\begin{array}{c} y_T \\ \hline y_B \end{array} \right) = \left(\begin{array}{c} \widehat{y}_T \\ \hline A_B x + \widehat{y}_B \end{array} \right) \right\}$
3	while $m(A_B) < m(A)$ do
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5a	where
6	$\left\{ \right\}$
8	
7	$\left\{ \right\}$
5b	
2	$\left\{ \left(\begin{array}{c} y_T \\ \hline y_B \end{array} \right) = \left(\begin{array}{c} \widehat{y}_T \\ \hline A_B x + \widehat{y}_B \end{array} \right) \right\}$
	endwhile
2,3	$\left\{ \left(\begin{array}{c} y_T \\ \hline y_B \end{array} \right) = \left(\begin{array}{c} \widehat{y}_T \\ \hline A_B x + \widehat{y}_B \end{array} \right) \wedge \neg (m(A_B) < m(A)) \right\}$
1b	$\{ y = Ax + \widehat{y}) \}$

Step	Algorithm: $y := Ax + y$
1a	$\{ y = \widehat{y} \}$
4	$A \rightarrow \left(\begin{array}{c} A_T \\ \hline A_B \end{array}\right)$, $y \rightarrow \left(\begin{array}{c} y_T \\ \hline y_B \end{array}\right)$ where A_B has 0 rows, y_B has 0 rows
2	$\left\{ \left(\begin{array}{c} y_T \\ \hline y_B \end{array}\right) = \left(\begin{array}{c} \widehat{y}_T \\ \hline A_B x + \widehat{y}_B \end{array}\right) \right\}$
3	while $m(A_B) < m(A)$ do
2,3	$\left\{ \left(\begin{array}{c} y_T \\ \hline y_B \end{array}\right) = \left(\begin{array}{c} \widehat{y}_T \\ \hline A_B x + \widehat{y}_B \end{array}\right) \wedge m(A_B) < m(A) \right\}$
5a	$\left(\begin{array}{c} A_T \\ \hline A_B \end{array}\right) \rightarrow \left(\begin{array}{c} A_0 \\ a_1^T \\ \hline A_2 \end{array}\right)$, $\left(\begin{array}{c} y_T \\ \hline y_B \end{array}\right) \rightarrow \left(\begin{array}{c} y_0 \\ \psi_1 \\ \hline y_2 \end{array}\right)$ where a_1 has 1 row, ψ_1 has 1 row
6	$\left\{ \quad \right\}$
8	
7	$\left\{ \quad \right\}$
5b	$\left(\begin{array}{c} A_T \\ \hline A_B \end{array}\right) \leftarrow \left(\begin{array}{c} A_0 \\ \hline a_1^T \\ A_2 \end{array}\right)$, $\left(\begin{array}{c} y_T \\ \hline y_B \end{array}\right) \leftarrow \left(\begin{array}{c} y_0 \\ \hline \psi_1 \\ y_2 \end{array}\right)$
2	$\left\{ \left(\begin{array}{c} y_T \\ \hline y_B \end{array}\right) = \left(\begin{array}{c} \widehat{y}_T \\ \hline A_B x + \widehat{y}_B \end{array}\right) \right\}$
	endwhile
2,3	$\left\{ \left(\begin{array}{c} y_T \\ \hline y_B \end{array}\right) = \left(\begin{array}{c} \widehat{y}_T \\ \hline A_B x + \widehat{y}_B \end{array}\right) \wedge \neg(m(A_B) < m(A)) \right\}$
1b	$\{ y = Ax + \widehat{y}) \}$

Step	Algorithm: $y := Ax + y$
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8	
7	$\{ \}$
5b	$\left(\frac{A_T}{A_B}\right) \leftarrow \left(\begin{array}{c} A_0 \\ \hline a_1^T \\ A_2 \end{array}\right)$, $\left(\frac{y_T}{y_B}\right) \leftarrow \left(\begin{array}{c} y_0 \\ \hline \psi_1 \\ y_2 \end{array}\right)$
2	$\left\{ \left(\frac{y_T}{y_B}\right) = \left(\frac{\widehat{y}_T}{A_B x + \widehat{y}_B}\right) \right\}$
	endwhile
2,3	$\left\{ \left(\frac{y_T}{y_B}\right) = \left(\frac{\widehat{y}_T}{A_B x + \widehat{y}_B}\right) \wedge \neg(m(A_B) < m(A)) \right\}$
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8	
7	$\left\{ \begin{pmatrix} y_0 \\ \psi_1 \\ y_2 \end{pmatrix} = \begin{pmatrix} \widehat{y}_0 \\ a_1^T x + \widehat{\psi}_1 \\ A_2 x + \widehat{y}_2 \end{pmatrix} \right\}$
5b	$\left(\frac{A_T}{A_B}\right) \leftarrow \left(\begin{array}{c} A_0 \\ \hline a_1^T \\ A_2 \end{array}\right)$, $\left(\frac{y_T}{y_B}\right) \leftarrow \left(\begin{array}{c} y_0 \\ \hline \psi_1 \\ y_2 \end{array}\right)$
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5b	$\left(\frac{A_T}{A_B}\right) \leftarrow \begin{pmatrix} A_0 \\ \hline a_1^T \\ A_2 \end{pmatrix}$, $\left(\frac{y_T}{y_B}\right) \leftarrow \begin{pmatrix} y_0 \\ \hline \psi_1 \\ y_2 \end{pmatrix}$
2	$\left\{ \left(\frac{y_T}{y_B}\right) = \left(\frac{\widehat{y}_T}{A_B x + \widehat{y}_B}\right) \right\}$
	endwhile
2,3	$\left\{ \left(\frac{y_T}{y_B}\right) = \left(\frac{\widehat{y}_T}{A_B x + \widehat{y}_B}\right) \wedge \neg(m(A_B) < m(A)) \right\}$
1b	$\{y = Ax + \widehat{y})$ $\}$

	Algorithm: $y := Ax + y$
	$A \rightarrow \left(\begin{array}{c} A_T \\ \hline A_B \end{array}\right)$, $y \rightarrow \left(\begin{array}{c} y_T \\ \hline y_B \end{array}\right)$ where A_B has 0 rows, y_B has 0 rows
	while $m(A_B) < m(A)$ do
	$\left(\begin{array}{c} A_T \\ \hline A_B \end{array}\right) \rightarrow \left(\begin{array}{c} A_0 \\ a_1^T \\ \hline A_2 \end{array}\right)$, $\left(\begin{array}{c} y_T \\ \hline y_B \end{array}\right) \rightarrow \left(\begin{array}{c} y_0 \\ \psi_1 \\ \hline y_2 \end{array}\right)$ where a_1 has 1 row, ψ_1 has 1 row
	$\psi_1 := a_1^T x + \psi_1$
	$\left(\begin{array}{c} A_T \\ \hline A_B \end{array}\right) \leftarrow \left(\begin{array}{c} A_0 \\ \hline a_1^T \\ A_2 \end{array}\right)$, $\left(\begin{array}{c} y_T \\ \hline y_B \end{array}\right) \leftarrow \left(\begin{array}{c} y_0 \\ \hline \psi_1 \\ y_2 \end{array}\right)$
	endwhile

Algorithm: $y := Ax + y$

$$A \rightarrow \left(\frac{A_T}{A_B} \right), \; y \rightarrow \left(\frac{y_T}{y_B} \right)$$

where A_B has 0 rows, y_B has 0 rows

while $m(A_B) < m(A)$ do

$$\left(\frac{A_T}{A_B} \right) \rightarrow \left(\begin{array}{c} A_0 \\ a_1^T \\ \hline A_2 \end{array} \right), \; \left(\frac{y_T}{y_B} \right) \rightarrow \left(\begin{array}{c} y_0 \\ \psi_1 \\ \hline y_2 \end{array} \right)$$

where a_1 has 1 row, ψ_1 has 1 row

$$\psi_1 := a_1^T x + \psi_1$$

$$\left(\frac{A_T}{A_B} \right) \leftarrow \left(\begin{array}{c} A_0 \\ \hline a_1^T \\ A_2 \end{array} \right), \; \left(\frac{y_T}{y_B} \right) \leftarrow \left(\begin{array}{c} y_0 \\ \hline \psi_1 \\ y_2 \end{array} \right)$$

endwhile