Step	Algorithm: $y := Ax + y$ (A symmetric stored in lower triangular part)
1a	$\{y = \widehat{y} \}$
4	$A \to \begin{pmatrix} A_{TL} & A_{TR} \\ A_{BL} & A_{BR} \end{pmatrix}, x \to \begin{pmatrix} x_T \\ x_B \end{pmatrix}, y \to \begin{pmatrix} y_T \\ y_B \end{pmatrix}$ where A_{BR} is 0×0 , x_B has 0 rows, y_B has 0 rows
2	$\left\{ \left(\frac{y_T}{y_B} \right) = \left(\frac{A_{BL}^T x_B + \widehat{y}_T}{A_{BL} x_T + A_{BR} x_B + \widehat{y}_B} \right) \right\}$
3	while $m(A_{BR}) < m(A)$ do
2,3	$\left\{ \left(\frac{y_T}{y_B} \right) = \left(\frac{A_{BL}^T x_B + \widehat{y}_T}{A_{BL} x_T + A_{BR} x_B + \widehat{y}_B} \right) \land m(A_{BR}) < m(A) \right\}$
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} \\ a_{10}^T & \alpha_{11} & a_{12}^T \\ \hline A_{20} & a_{21} & A_{22} \end{array}\right), \left(\begin{array}{c} x_T \\ x_B \end{array}\right) \rightarrow \left(\begin{array}{c} x_0 \\ \chi_1 \\ x_2 \end{array}\right), \left(\begin{array}{c} y_T \\ y_B \end{array}\right) \rightarrow \left(\begin{array}{c} y_0 \\ \psi_1 \\ y_2 \end{array}\right) $ where α_{11} is 1×1 , χ_1 has 1 row, ψ_1 has 1 row
6	$ \begin{cases} \begin{pmatrix} y_0 \\ \psi_1 \\ y_2 \end{pmatrix} = \begin{pmatrix} A_{20}^T x_2 + \hat{y}_0 \\ a_{21}^T x_2 + \hat{\psi}_1 \\ A_{20} x_0 + \chi_1 a_{21} + A_{22} x_2 + \hat{y}_2 \end{pmatrix} $
8	$y_0 := \chi_1(a_{10}^T)^T + y_0 \ \psi_1 := a_{10}^T x_0 + \alpha_{11} \chi_1 + \psi_1$
7	$ \begin{cases} \begin{pmatrix} y_0 \\ \psi_1 \\ y_2 \end{pmatrix} = \begin{pmatrix} \chi_1(a_{10}^T)^T + A_{20}^T x_2 + \widehat{y}_0 \\ a_{10}^T x_0 + \alpha_{11} \chi_1 + a_{21}^T x_2 + \widehat{\psi}_1 \\ A_{20} x_0 + \chi_1 a_{21} + A_{22} x_2 + \widehat{y}_2 \end{pmatrix} \end{cases} $
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} \\ \hline a_{10}^T & \alpha_{11} & a_{12}^T \\ A_{20} & a_{21} & A_{22} \end{array}\right), \left(\begin{array}{c} x_T \\ x_B \end{array}\right) \leftarrow \left(\begin{array}{c} x_0 \\ \chi_1 \\ \chi_2 \end{array}\right), \left(\begin{array}{c} y_T \\ y_B \end{array}\right) \leftarrow \left(\begin{array}{c} y_0 \\ \psi_1 \\ y_2 \end{array}\right) $
2	$\left\{ \begin{array}{c} \left(\frac{y_T}{y_B}\right) = \left(\frac{A_{BL}^T x_B + \widehat{y}_T}{A_{BL} x_T + A_{BR} x_B + \widehat{y}_B}\right) \end{array} \right\}$
	endwhile
2,3	$\left\{ \left(\frac{y_T}{y_B} \right) = \left(\frac{A_{BL}^T x_B + \widehat{y}_T}{A_{BL} x_T + A_{BR} x_B + \widehat{y}_B} \right) \land \neg (m(A_{BR}) < m(A)) \right\}$
1b	$\{y = Ax + \hat{y} $

Step	Algorithm: $y := Ax + y$ (A symmetric stored in lower triangular part)	
1a	{	}
4		
	where	
0		
2		Ĵ
3	while do	
2,3	^	}
		,
_		
5a		
	where	
6	\	}
		J
0		
8		
)
7	{	}
		j
5b		
2	{	}
	endwhile	
2,3		}
,		
1b	{	}

Algorithm: $y := Ax + y$	(A symmetric sto)	red in lower tria	angular part)	
$\{y=\widehat{y}$				}
where				
				}
while do)			,
		٨		$\bigg\}$
				,
1				
where)
				}
				}
)
				}
endwhile				
	\ -	٦)	}
$y = Ax + \widehat{y}$				}
	where while where endwhile	\text{where} \\ \text{ while do } \\ \text{ where } \\ \text{ where } \\ \text{ endwhile } \\ has a point of the content of	\text{where} \\ \text{while} \text{do} \\ \text{where} \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	where while do where endwhile has a second of the seco

Step	Algorithm: $y := Ax + y$ (A symmetric stored in lower triangular part)	
1a	$\{y=\widehat{y}$	}
4	where	
2	$\left\{ \left(\frac{y_T}{y_B} \right) = \left(\frac{A_{BL}^T x_B + \widehat{y}_T}{A_{BL} x_T + A_{BR} x_B + \widehat{y}_B} \right) \right\}$	
3	while do	
2,3	$\left\{ \left(\frac{y_T}{y_B} \right) = \left(\frac{A_{BL}^T x_B + \widehat{y}_T}{A_{BL} x_T + A_{BR} x_B + \widehat{y}_B} \right) \wedge \right.$	
5a	where	
6		
8		
7		
5b		
2	$\left\{ \begin{array}{c} \left(\frac{y_T}{y_B}\right) = \left(\frac{A_{BL}^T x_B + \widehat{y}_T}{A_{BL} x_T + A_{BR} x_B + \widehat{y}_B}\right) \end{array} \right.$	
	endwhile	
2,3	$ \left\{ \left(\frac{y_T}{y_B} \right) = \left(\frac{A_{BL}^T x_B + \widehat{y}_T}{A_{BL} x_T + A_{BR} x_B + \widehat{y}_B} \right) \land \neg () \right\} $	
1b	$\{y = Ax + \widehat{y}$	}

Step	Algorithm: $y := Ax + y$ (A symmetric stored in lower triangular part)	
1a	$y = \hat{y}$	}
4	where	
2	$\left\{ \left(\frac{y_T}{y_B} \right) = \left(\frac{A_{BL}^T x_B + \widehat{y}_T}{A_{BL} x_T + A_{BR} x_B + \widehat{y}_B} \right) \right.$	
3	while $m(A_{BR}) < m(A)$ do	
2,3	$\left\{ \left(\frac{y_T}{y_B} \right) = \left(\frac{A_{BL}^T x_B + \widehat{y}_T}{A_{BL} x_T + A_{BR} x_B + \widehat{y}_B} \right) \wedge m(A_{BR}) < m(A) \right\}$	
5a	where	
6		
8		
7		
5b		
2	$\left\{ \begin{array}{c} \left(\frac{y_T}{y_B}\right) = \left(\frac{A_{BL}^T x_B + \widehat{y}_T}{A_{BL} x_T + A_{BR} x_B + \widehat{y}_B}\right) \end{array} \right.$	
	endwhile	
2,3	$\left\{ \left(\frac{y_T}{y_B} \right) = \left(\frac{A_{BL}^T x_B + \widehat{y}_T}{A_{BL} x_T + A_{BR} x_B + \widehat{y}_B} \right) \land \neg (m(A_{BR}) < m(A)) \right\}$	
1b	$\{y = Ax + \widehat{y}$	}

Step	Algorithm: $y := Ax + y$ (A symmetric stored in lower triangular part)
1a	$\{y = \widehat{y} $
4	$A \to \begin{pmatrix} A_{TL} & A_{TR} \\ A_{BL} & A_{BR} \end{pmatrix}, x \to \begin{pmatrix} x_T \\ x_B \end{pmatrix}, y \to \begin{pmatrix} y_T \\ y_B \end{pmatrix}$ where A_{BR} is 0×0 , x_B has 0 rows, y_B has 0 rows
2	$\left\{ \left(\frac{y_T}{y_B} \right) = \left(\frac{A_{BL}^T x_B + \hat{y}_T}{A_{BL} x_T + A_{BR} x_B + \hat{y}_B} \right) \right\}$
3	while $m(A_{BR}) < m(A)$ do
2,3	$\left\{ \left(\frac{y_T}{y_B} \right) = \left(\frac{A_{BL}^T x_B + \widehat{y}_T}{A_{BL} x_T + A_{BR} x_B + \widehat{y}_B} \right) \land m(A_{BR}) < m(A) \right\}$
5a	where
	where
6	
8	
7	
5b	
2	$\left\{ \left(\frac{y_T}{y_B} \right) = \left(\frac{A_{BL}^T x_B + \widehat{y}_T}{A_{BL} x_T + A_{BR} x_B + \widehat{y}_B} \right) \right\}$
	endwhile
2,3	$\left\{ \left(\frac{y_T}{y_B} \right) = \left(\frac{A_{BL}^T x_B + \widehat{y}_T}{A_{BL} x_T + A_{BR} x_B + \widehat{y}_B} \right) \land \neg (m(A_{BR}) < m(A)) \right\}$
1b	$\{y = Ax + \widehat{y} $ }

Step	Algorithm: $y := Ax + y$ (A symmetric stored in lower triangular part)	
1a	$\{y=\widehat{y}$	}
4	$A o \left(\begin{array}{c c} A_{TL} & A_{TR} \\ \hline A_{BL} & A_{BR} \end{array}\right), x o \left(\begin{array}{c} x_T \\ \hline x_B \end{array}\right), y o \left(\begin{array}{c} y_T \\ \hline y_B \end{array}\right)$	
2	where A_{BR} is 0×0 , x_B has 0 rows, y_B has 0 rows $ \left\{ \left(\frac{y_T}{y_B} \right) = \left(\frac{A_{BL}^T x_B + \hat{y}_T}{A_{BL} x_T + A_{BR} x_B + \hat{y}_B} \right) \right\} $	
3	while $m(A_{BR}) < m(A)$ do	
2,3	$\left\{ \left(\frac{y_T}{y_B} \right) = \left(\frac{A_{BL}^T x_B + \widehat{y}_T}{A_{BL} x_T + A_{BR} x_B + \widehat{y}_B} \right) \land m(A_{BR}) < m(A) \right\}$	$oxed{\ }$
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} x_T \\ x_B \end{pmatrix} \rightarrow \begin{pmatrix} x_0 \\ \chi_1 \\ x_2 \end{pmatrix}, \begin{pmatrix} y_T \\ y_B \end{pmatrix} \rightarrow \begin{pmatrix} y_0 \\ \psi_1 \\ y_2 \end{pmatrix} $ where α_{11} is 1×1 , χ_1 has 1 row, ψ_1 has 1 row	
6		$\left. \right\}$
8		
7		$\left. \begin{array}{c} \\ \end{array} \right\}$
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} \\ \hline a_{10}^T & \alpha_{11} & a_{12}^T \\ A_{20} & a_{21} & A_{22} \end{array}\right), \left(\begin{array}{c} x_T \\ x_B \end{array}\right) \leftarrow \left(\begin{array}{c} x_0 \\ \chi_1 \\ x_2 \end{array}\right), \left(\begin{array}{c} y_T \\ y_B \end{array}\right) \leftarrow \left(\begin{array}{c} y_0 \\ \psi_1 \\ y_2 \end{array}\right) $	
2	$\left\{ \begin{array}{c} \left(\frac{y_T}{y_B}\right) = \left(\frac{A_{BL}^T x_B + \widehat{y}_T}{A_{BL} x_T + A_{BR} x_B + \widehat{y}_B}\right) \end{array} \right.$	igg
	endwhile	
2,3	$\left\{ \left(\frac{y_T}{y_B} \right) = \left(\frac{A_{BL}^T x_B + \widehat{y}_T}{A_{BL} x_T + A_{BR} x_B + \widehat{y}_B} \right) \land \neg (m(A_{BR}) < m(A)) \right\}$	
1b	$\{y = Ax + \widehat{y}$	}

Step	Algorithm: $y := Ax + y$ (A symmetric stored in lower triangular part)	
1a	$\{y=\widehat{y}$	}
4	$A \to \begin{pmatrix} A_{TL} & A_{TR} \\ A_{BL} & A_{BR} \end{pmatrix}, x \to \begin{pmatrix} x_T \\ x_B \end{pmatrix}, y \to \begin{pmatrix} y_T \\ y_B \end{pmatrix}$ where A_{BR} is 0×0 , x_B has 0 rows, y_B has 0 rows	
2	$\left\{ \left(\frac{y_T}{y_B} \right) = \left(\frac{A_{BL}^T x_B + \widehat{y}_T}{A_{BL} x_T + A_{BR} x_B + \widehat{y}_B} \right) \right\}$	igg
3	while $m(A_{BR}) < m(A)$ do	
2,3	$\left\{ \left(\frac{y_T}{y_B} \right) = \left(\frac{A_{BL}^T x_B + \widehat{y}_T}{A_{BL} x_T + A_{BR} x_B + \widehat{y}_B} \right) \land m(A_{BR}) < m(A) \right\}$	igg
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 \\ \hline A_{20} & a_{21} & A_{22} \end{array}\right), \left(\begin{array}{c} x_T \\ x_B \end{array}\right) \rightarrow \left(\begin{array}{c} x_0 \\ \chi_1 \\ x_2 \end{array}\right), \left(\begin{array}{c} y_T \\ y_B \end{array}\right) \rightarrow \left(\begin{array}{c} y_0 \\ \psi_1 \\ y_2 \end{array}\right) $ where α_{11} is 1×1 , χ_1 has 1 row, ψ_1 has 1 row	
6	$\begin{cases} \begin{pmatrix} y_0 \\ \psi_1 \\ y_2 \end{pmatrix} = \begin{pmatrix} A_{20}^T x_2 + \widehat{y}_0 \\ a_{21}^T x_2 + \widehat{\psi}_1 \\ A_{20} x_0 + \chi_1 a_{21} + A_{22} x_2 + \widehat{y}_2 \end{pmatrix}$	$\left. \begin{array}{c} \\ \end{array} \right\}$
8		
7		$\left.\begin{array}{c} \\ \end{array}\right\}$
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} \\ \hline a_{10}^T & \alpha_{11} & a_{12}^T \\ A_{20} & a_{21} & A_{22} \end{array}\right), \left(\begin{array}{c} x_T \\ x_B \end{array}\right) \leftarrow \left(\begin{array}{c} x_0 \\ \chi_1 \\ x_2 \end{array}\right), \left(\begin{array}{c} y_T \\ y_B \end{array}\right) \leftarrow \left(\begin{array}{c} y_0 \\ \psi_1 \\ y_2 \end{array}\right) $	
2	$\left\{ \begin{array}{c} \left(\frac{y_T}{y_B}\right) = \left(\frac{A_{BL}^T x_B + \widehat{y}_T}{A_{BL} x_T + A_{BR} x_B + \widehat{y}_B}\right) \end{array} \right.$	igg
	endwhile	
2,3	$\left\{ \left(\frac{y_T}{y_B} \right) = \left(\frac{A_{BL}^T x_B + \widehat{y}_T}{A_{BL} x_T + A_{BR} x_B + \widehat{y}_B} \right) \land \neg (m(A_{BR}) < m(A)) \right\}$	$\bigg\}$
1b	$\{y = Ax + \widehat{y}$	}

Step	Algorithm: $y := Ax + y$ (A symmetric stored in lower triangular part)
1a	$\{y = \widehat{y} $
4	$A \to \left(\begin{array}{c c} A_{TL} & A_{TR} \\ \hline A_{BL} & A_{BR} \end{array}\right), x \to \left(\begin{array}{c} x_T \\ \hline x_B \end{array}\right), y \to \left(\begin{array}{c} y_T \\ \hline y_B \end{array}\right)$ where A_{BR} is 0×0 , x_B has 0 rows, y_B has 0 rows
2	$\left\{ \left(\frac{y_T}{y_B} \right) = \left(\frac{A_{BL}^T x_B + \widehat{y}_T}{A_{BL} x_T + A_{BR} x_B + \widehat{y}_B} \right) \right\}$
3	while $m(A_{BR}) < m(A)$ do
2,3	$\left\{ \left(\frac{y_T}{y_B} \right) = \left(\frac{A_{BL}^T x_B + \widehat{y}_T}{A_{BL} x_T + A_{BR} x_B + \widehat{y}_B} \right) \land m(A_{BR}) < m(A) \right\}$
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} \\ a_{10}^T & \alpha_{11} & a_{12}^T \\ \hline A_{20} & a_{21} & A_{22} \end{array}\right), \left(\begin{array}{c} x_T \\ x_B \end{array}\right) \rightarrow \left(\begin{array}{c} x_0 \\ \chi_1 \\ x_2 \end{array}\right), \left(\begin{array}{c} y_T \\ y_B \end{array}\right) \rightarrow \left(\begin{array}{c} y_0 \\ \psi_1 \\ y_2 \end{array}\right) $ where α_{11} is 1×1 , χ_1 has 1 row, ψ_1 has 1 row
6	$ \begin{cases} \begin{pmatrix} y_0 \\ \psi_1 \\ y_2 \end{pmatrix} = \begin{pmatrix} A_{20}^T x_2 + \widehat{y}_0 \\ a_{21}^T x_2 + \widehat{\psi}_1 \\ A_{20} x_0 + \chi_1 a_{21} + A_{22} x_2 + \widehat{y}_2 \end{pmatrix} \end{cases} $
8	
7	$ \begin{cases} \begin{pmatrix} y_0 \\ \psi_1 \\ y_2 \end{pmatrix} = \begin{pmatrix} \chi_1(a_{10}^T)^T + A_{20}^T x_2 + \widehat{y}_0 \\ a_{10}^T x_0 + \alpha_{11} \chi_1 + a_{21}^T x_2 + \widehat{\psi}_1 \\ A_{20} x_0 + \chi_1 a_{21} + A_{22} x_2 + \widehat{y}_2 \end{pmatrix} $
5b	$\begin{pmatrix} A_{00} & A_{00} & A_{01} & A_{02} \end{pmatrix} \begin{pmatrix} A_{00} & A_{02} & A_{02} \end{pmatrix} \begin{pmatrix} A_{00} & A_{02} & A_{02} & A_{02} \end{pmatrix} \begin{pmatrix} A_{00} & A_{02} & A_{02} & A_{02} & A_{02} \end{pmatrix}$
2	$\left\{ \begin{array}{c} \left(\frac{y_T}{y_B}\right) = \left(\frac{A_{BL}^T x_B + \widehat{y}_T}{A_{BL} x_T + A_{BR} x_B + \widehat{y}_B}\right) \end{array} \right\}$
	endwhile
2,3	$\left\{ \left(\frac{y_T}{y_B} \right) = \left(\frac{A_{BL}^T x_B + \widehat{y}_T}{A_{BL} x_T + A_{BR} x_B + \widehat{y}_B} \right) \land \neg (m(A_{BR}) < m(A)) \right\}$
1b	$\left\{ y = Ax + \widehat{y} \right\}$

Step	Algorithm: $y := Ax + y$ (A symmetric stored in lower triangular part)
1a	$\{y = \widehat{y} \}$
4	$A \to \begin{pmatrix} A_{TL} & A_{TR} \\ A_{BL} & A_{BR} \end{pmatrix}, x \to \begin{pmatrix} x_T \\ x_B \end{pmatrix}, y \to \begin{pmatrix} y_T \\ y_B \end{pmatrix}$ where A_{BR} is 0×0 , x_B has 0 rows, y_B has 0 rows
2	$ \left\{ \left(\frac{y_T}{y_B} \right) = \left(\frac{A_{BL}^T x_B + \widehat{y}_T}{A_{BL} x_T + A_{BR} x_B + \widehat{y}_B} \right) \right\} $
3	while $m(A_{BR}) < m(A)$ do
2,3	$\left\{ \left(\frac{y_T}{y_B} \right) = \left(\frac{A_{BL}^T x_B + \widehat{y}_T}{A_{BL} x_T + A_{BR} x_B + \widehat{y}_B} \right) \land m(A_{BR}) < m(A) \right\}$
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} \\ a_{10}^T & \alpha_{11} & a_{12}^T \\ \hline A_{20} & a_{21} & A_{22} \end{array}\right), \left(\begin{array}{c} x_T \\ x_B \end{array}\right) \rightarrow \left(\begin{array}{c} x_0 \\ \chi_1 \\ x_2 \end{array}\right), \left(\begin{array}{c} y_T \\ y_B \end{array}\right) \rightarrow \left(\begin{array}{c} y_0 \\ \psi_1 \\ y_2 \end{array}\right) $ where α_{11} is 1×1 , χ_1 has 1 row, ψ_1 has 1 row
6	$ \begin{cases} \begin{pmatrix} y_0 \\ \psi_1 \\ y_2 \end{pmatrix} = \begin{pmatrix} A_{20}^T x_2 + \widehat{y}_0 \\ a_{21}^T x_2 + \widehat{\psi}_1 \\ A_{20} x_0 + \chi_1 a_{21} + A_{22} x_2 + \widehat{y}_2 \end{pmatrix} \end{cases} $
8	$egin{aligned} y_0 &\coloneqq & \chi_1(a_{10}^T)^T + y_0 \ \psi_1 &\coloneqq a_{10}^T x_0 + lpha_{11} \chi_1 + \psi_1 \end{aligned}$
7	$ \begin{cases} \begin{pmatrix} y_0 \\ \psi_1 \\ y_2 \end{pmatrix} = \begin{pmatrix} \chi_1(a_{10}^T)^T + A_{20}^T x_2 + \widehat{y}_0 \\ a_{10}^T x_0 + \alpha_{11} \chi_1 + a_{21}^T x_2 + \widehat{\psi}_1 \\ A_{20} x_0 + \chi_1 a_{21} + A_{22} x_2 + \widehat{y}_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_{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} x_T \\ x_B \end{array}\right) \leftarrow \left(\begin{array}{c} x_0 \\ \chi_1 \\ x_2 \end{array}\right), \left(\begin{array}{c} y_T \\ y_B \end{array}\right) \leftarrow \left(\begin{array}{c} y_0 \\ \psi_1 \\ y_2 \end{array}\right) $
2	$\left\{ \left(\frac{y_T}{y_B} \right) = \left(\frac{A_{BL}^T x_B + \widehat{y}_T}{A_{BL} x_T + A_{BR} x_B + \widehat{y}_B} \right) \right\}$
	endwhile
2,3	$\left\{ \left(\frac{y_T}{y_B} \right) = \left(\frac{A_{BL}^T x_B + \widehat{y}_T}{A_{BL} x_T + A_{BR} x_B + \widehat{y}_B} \right) \land \neg (m(A_{BR}) < m(A)) \right\}$
1b	$\left\{ y = Ax + \widehat{y} \right\}$

Algorithm: $y := Ax + y$ (A symmetric stored in lower triangular part)	
$A \to \begin{pmatrix} A_{TL} & A_{TR} \\ A_{BL} & A_{BR} \end{pmatrix}, x \to \begin{pmatrix} x_T \\ x_B \end{pmatrix}, y \to \begin{pmatrix} y_T \\ y_B \end{pmatrix}$ where A_{BR} is 0×0 , x_B has 0 rows, y_B has 0 rows	
while $m(A_{BR}) < m(A)$ 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} \\ a_{10}^T & \alpha_{11} & a_{12}^T \\ \hline A_{20} & a_{21} & A_{22} \end{array}\right), \left(\begin{array}{c} x_T \\ x_B \end{array}\right) \rightarrow \left(\begin{array}{c} x_0 \\ \chi_1 \\ x_2 \end{array}\right), \left(\begin{array}{c} y_T \\ y_B \end{array}\right) \rightarrow \left(\begin{array}{c} y_0 \\ \psi_1 \\ y_2 \end{array}\right) $ where α_{11} is 1×1 , χ_1 has 1 row, ψ_1 has 1 row	
$y_0 \coloneqq \chi_1(a_{10}^T)^T + y_0 \ \psi_1 \coloneqq a_{10}^T x_0 + \alpha_{11} \chi_1 + \psi_1$	
$ \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} \\ \hline a_{10}^T & \alpha_{11} & a_{12}^T \\ A_{20} & a_{21} & A_{22} \end{array}\right), \left(\begin{array}{c} x_T \\ x_B \end{array}\right) \leftarrow \left(\begin{array}{c} x_0 \\ \chi_1 \\ x_2 \end{array}\right), \left(\begin{array}{c} y_T \\ y_B \end{array}\right) \leftarrow \left(\begin{array}{c} y_0 \\ \psi_1 \\ y_2 \end{array}\right) $	
endwhile	

Algorithm: y := Ax + y (A symmetric stored in lower triangular part)

$$A \to \left(\begin{array}{c|c} A_{TL} & A_{TR} \\ \hline A_{BL} & A_{BR} \end{array}\right) , x \to \left(\begin{array}{c} x_T \\ \hline x_B \end{array}\right) , y \to \left(\begin{array}{c} y_T \\ \hline y_B \end{array}\right)$$

where A_{BR} is 0×0 , x_B has 0 rows, y_B has 0 rows

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

$$\left(\begin{array}{c|c}
A_{TL} & A_{TR} \\
\hline
A_{BL} & A_{BR}
\end{array}\right) \to \left(\begin{array}{c|c}
A_{00} & a_{01} & A_{02} \\
a_{10}^T & \alpha_{11} & a_{12}^T \\
\hline
A_{20} & a_{21} & A_{22}
\end{array}\right) , \left(\begin{array}{c}
x_T \\
x_B
\end{array}\right) \to \left(\begin{array}{c}
x_0 \\
\chi_1 \\
x_2
\end{array}\right) , \left(\begin{array}{c}
y_T \\
y_B
\end{array}\right) \to \left(\begin{array}{c}
y_0 \\
\psi_1 \\
y_2
\end{array}\right)$$

where α_{11} is 1×1 , χ_1 has 1 row, ψ_1 has 1 row

$$y_0 := \chi_1(a_{10}^T)^T + y_0$$

$$\psi_1 := a_{10}^T x_0 + \alpha_{11} \chi_1 + \psi_1$$

$$\left(\begin{array}{c|c}
A_{TL} & A_{TR} \\
\hline
A_{BL} & A_{BR}
\end{array}\right) \leftarrow \left(\begin{array}{c|c}
A_{00} & a_{01} & A_{02} \\
\hline
a_{10}^T & \alpha_{11} & a_{12}^T \\
A_{20} & a_{21} & A_{22}
\end{array}\right), \left(\begin{array}{c}
x_T \\
x_B
\end{array}\right) \leftarrow \left(\begin{array}{c}
x_0 \\
\chi_1 \\
x_2
\end{array}\right), \left(\begin{array}{c}
y_T \\
y_B
\end{array}\right) \leftarrow \left(\begin{array}{c}
y_0 \\
\psi_1 \\
y_2
\end{array}\right)$$

endwhile