

Algorithm: $y := \text{TRMV_UT_UNB_VAR1}(U, x)$

Partition $U \rightarrow \left(\frac{U_{TL}}{U_{BL}} \middle| \frac{U_{TR}}{U_{BR}} \right), x \rightarrow \left(\frac{x_T}{x_B} \right)$

where U_{BR} is 0×0 , x_B is 0×1

while $m(U_{BR}) < m(U)$ **do**

Repartition

$$\left(\frac{U_{TL}}{U_{BL}} \middle| \frac{U_{TR}}{U_{BR}} \right) \rightarrow \left(\frac{U_{00}}{u_{10}^T} \middle| \frac{u_{01}}{v_{11}} \middle| \frac{U_{02}}{u_{12}^T} \right),$$

$$\left(\frac{x_T}{x_B} \right) \rightarrow \left(\frac{x_0}{\frac{\chi_1}{x_2}} \right)$$

$$\chi_1 =: v_{11}\chi_1$$

$$\chi_1 =: u_{01}^T + \chi_1$$

Continue with

$$\left(\frac{U_{TL}}{U_{BL}} \middle| \frac{U_{TR}}{U_{BR}} \right) \leftarrow \left(\frac{U_{00}}{u_{10}^T} \middle| \frac{u_{01}}{v_{11}} \middle| \frac{U_{02}}{u_{12}^T} \right),$$

$$\left(\frac{x_T}{x_B} \right) \leftarrow \left(\frac{x_0}{\frac{\chi_1}{x_2}} \right)$$

endwhile