

- Implement. de LU

function dec_lu(A, T)

$L = \text{diagm}(0 \Rightarrow \text{ones}(T, n))$

$U = \text{convert}(\text{Matrix}\{T\}, A)$

\vdots

end

- Impl. de solve_lu $Ax = b$

function solve_lu(L, U, P, b, T)

$Ly = Pb; \quad Ux = y$

$y = \text{zeros}(T, n)$

\vdots

$x = \text{zeros}(T, n)$

end

→ Ter A e b em BigFloat

→ $L, U, P = \text{dec_lu}(A, \text{Float16})$

→ $x = \text{solve_lu}(L, U, P, b, \text{BigFloat})$

→ $r = b - Ax$

→ while $\|r\| > \epsilon$

$\Delta x = \text{solve_lu}(L, U, P, r, \text{BigFloat})$

$x += \Delta x$

$r = b - Ax$

end

→ Tipo, e.g.,
Float64,
BigFloat

→ $\sqrt{\text{eps}(\text{BigFloat})}$

TODO: $\approx K$