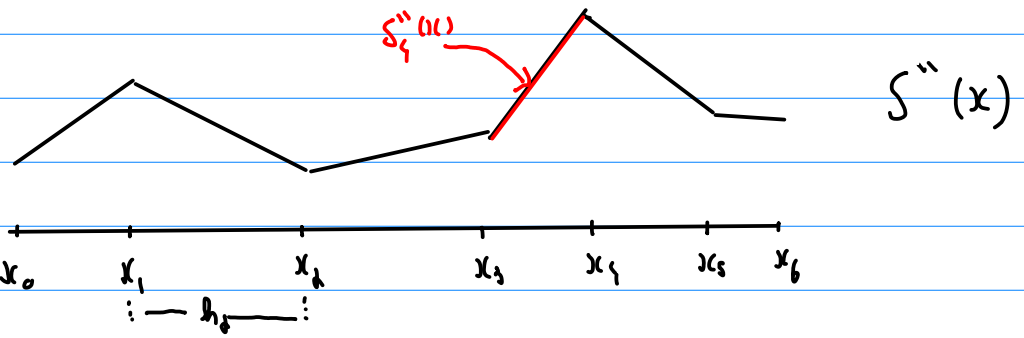
COMP III - 28/9/2021

RASCUNHO DA DISCUSSÃO SOBRE O EP2



$S_i(x)$: RESTRIÇÃO DE S A $[x_{i-1}, x_i]$, $1 \leq i \leq n = 6$

$S_i''(x)$: POLINÔMIO DE GRAU ≤ 1, $x \in [x_{i-1}, x_i]$

$$S_i''(x) = \frac{x_i - x}{h_i} m_{i-1} + \frac{x - x_{i-1}}{h_i} m_i \; ; \; S_{i+1}''(x) = \frac{x_{i+1} - x}{h_{i+1}} m_i + \frac{x - x_i}{h_{i+1}} m_{i+1}$$

$$S_i''(x_i) = \frac{x_i - x_{i-1}}{h_i} m_i = \frac{h_i}{h_i} m_i = m_i$$

$$S_{i+1}''(x_i) = \frac{x_{i+1} - x_i}{h_{i+1}} m_i = \frac{h_{i+1}}{h_{i+1}} m_i = m_i$$

$1 \leq i \leq n-1$

$S(x_i) = y_i$, $0 \leq i \leq n$ (INTERPOLAÇÃO)

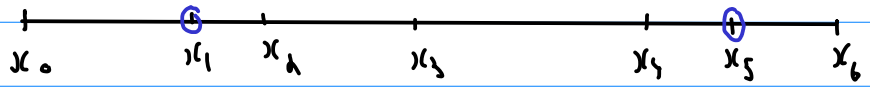
$\Downarrow$

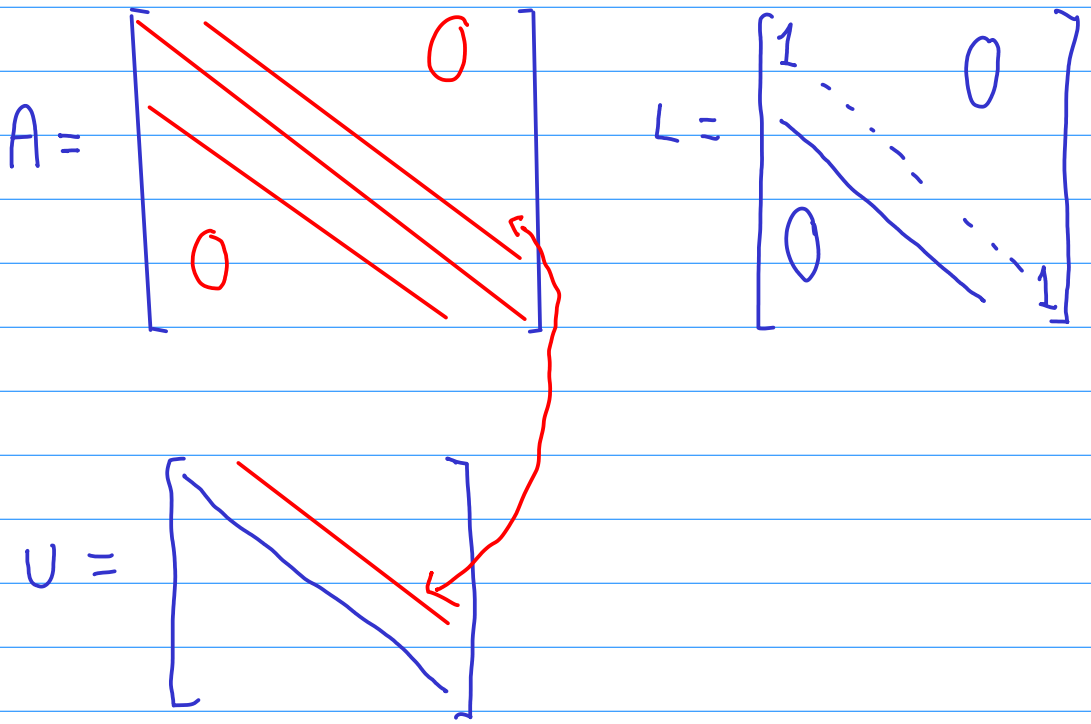
$S_i(x_{i-1}) = y_{i-1}$; $S_i(x_i) = y_i$, $1 \leq i \leq n$

$\Rightarrow$ S CONTÍNUA ($S_i(x_i) = S_{i+1}(x_i) = y_i$, $1 \leq i \leq n-1$)

— / —

" NOT A KNOT "





TRIDIAGONAL "PERIÓDICO"