

LICENCIATURA EM ENGENHARIA ELECTROTÉCNICA E DE COMPUTADORES
ANÁLISE NUMÉRICA

— Formulário —

$$\varepsilon_k = \frac{|x_b - x_a|}{2^k}$$

$$\varepsilon_k = |x^* - x_k| < \frac{q}{1-q} |x_k - x_{k-1}|, \text{ com } q = \max_{x \in [a, b]} |f'(x)|$$

$$\varepsilon_k = |x^* - x_k| \leq \frac{M_2}{2m_1} (x_k - x_{k-1})^2, \text{ com } \begin{cases} M_2 = \max_{x \in [a, b]} |f''(x)| \\ m_1 = \min_{x \in [a, b]} |f'(x)| \end{cases}$$

$$P_n(x) = \sum_{i=0}^n y_i \frac{\prod_{k=0, k \neq i}^n (x - x_k)}{\prod_{k=0, k \neq i}^n (x_i - x_k)}$$

$$P_n(x) = \sum_{i=0}^n \left(\frac{\Delta^i y_0}{i! h^i} \prod_{k=0}^{i-1} (x - x_k) \right)$$

$$P_n(x) = y[x_0] + y[x_0, x_1](x - x_0) + y[x_0, x_1, x_2](x - x_0)(x - x_1) + \dots + y[x_0, x_1, \dots, x_n](x - x_0) \cdots (x - x_{n-1})$$

$$y_{01}(x) = \frac{\begin{vmatrix} y_0 & x - x_0 \\ y_1 & x - x_1 \end{vmatrix}}{x_0 - x_1}$$

$$|\varepsilon_t| \leq \frac{h^2}{12} |b - a| \max_{a \leq \xi \leq b} |f''(\xi)|$$

$$|\varepsilon_t| \leq \frac{h^4}{180} |b - a| \max_{a \leq \xi \leq b} |f^{(4)}(\xi)|$$

$$\|\mathbf{s} - \mathbf{x^n}\|_\infty \leq \frac{\|\mathbf{B}\|_\infty}{1 - \|\mathbf{B}\|_\infty} \|\mathbf{x^n} - \mathbf{x^{n-1}}\|_\infty$$