

$$e^x = 3x + 4 \quad \text{on } [0, 4]$$

stopping criteria ≤ 0.001

$$f(x) = e^x - 3x - 4$$

start: initial guesses $x_0 = 0$ $x_1 = 4$

$$\text{it}+1: \quad x_2 = x_1 - f(x_1) \cdot \frac{x_1 - x_0}{f(x_1) - f(x_0)}$$

$$x_2 = 4 - f(4) \cdot \frac{4 - 0}{f(4) - f(0)} = \underline{0.2885}$$

$|x_1 - x_2| \not\leq 10^{-3} \rightarrow \text{continue}$

$$\text{it}+2: \quad x_0 = 4 \quad x_1 = 0.2885$$

$$x_2 = 0.2885 - f(0.2885) \cdot \frac{0.2885 - 4}{f(0.2885) - f(4)}$$

$$x_2 = \underline{\underline{0.5996}}$$

$|x_2 - x_1| \not\leq 10^{-3} \rightarrow \text{continue}$

$$\text{it}+3: \quad x_0 = 0.2885 \quad x_1 = 0.5996$$

$$x_2 = 0.5996 - f(0.5996) \cdot \frac{0.5996 - 0.2885}{f(0.5996) - f(0.2885)}$$

$$x_2 = -2.172$$

$|x_2 - x_1| \not\leq 10^{-3} \rightarrow \text{continue}$

$$\text{it}+4: \quad x_0 = 0.5996 \quad x_1 = -2.172$$