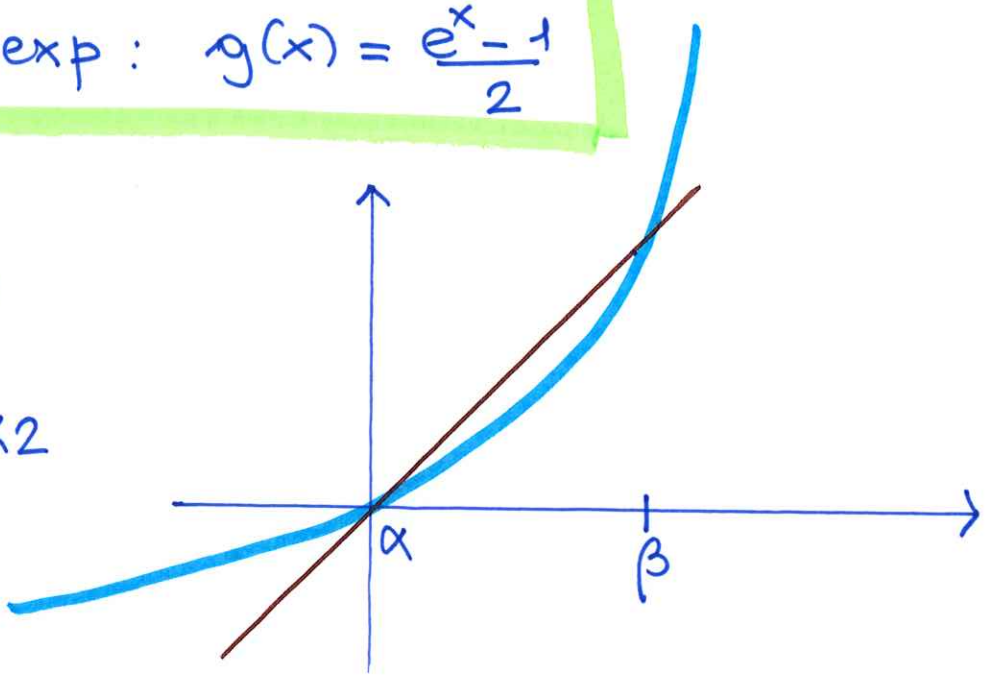
pfisso_main_exp : $g(x) = \frac{e^x - 1}{2}$

x	$g(x)$
0	0
1	$\frac{e-1}{2}$
2	$\frac{e^2-1}{2}$

$\alpha = 0$

$1 < \beta < 2$



$g'(x) = \frac{e^x}{2}$

$g'(0) = \frac{1}{2} < 1$ (converge a $\alpha \neq 0$ 1° ordine)

$g'(1) = \frac{e}{2} > 1$ $\quad g'(2) = \frac{e^2}{2}$ $\quad g'$ crescente

$1 < \frac{e}{2} < g'(\beta) < \frac{e^2}{2}$ (non converge a β)

$\lim_{n \to \infty} \frac{e_n}{e_{n-1}} = g'(\alpha)$ $\quad e_n = |x_n - \alpha|$

$x_0 < \alpha$ x_k successione monotona crescente limitata superiormente da α: $x_k \nearrow \alpha$

$\alpha < x_0 < \beta$ x_k successione monotona decrescente limitata inferiormente da α: $x_k \searrow \alpha$

$x_0 > \beta$ x_k successione monotona crescente illimitata superiormente: $x_k \to +\infty$

$\Rightarrow$ $x_0 < \beta$ $\quad x_k \to \alpha$

DIVERGENZA LOCALE

- $x_k < \beta$: $x_k \to \alpha$
- $x_k > \beta$: $x_k \to +\infty$