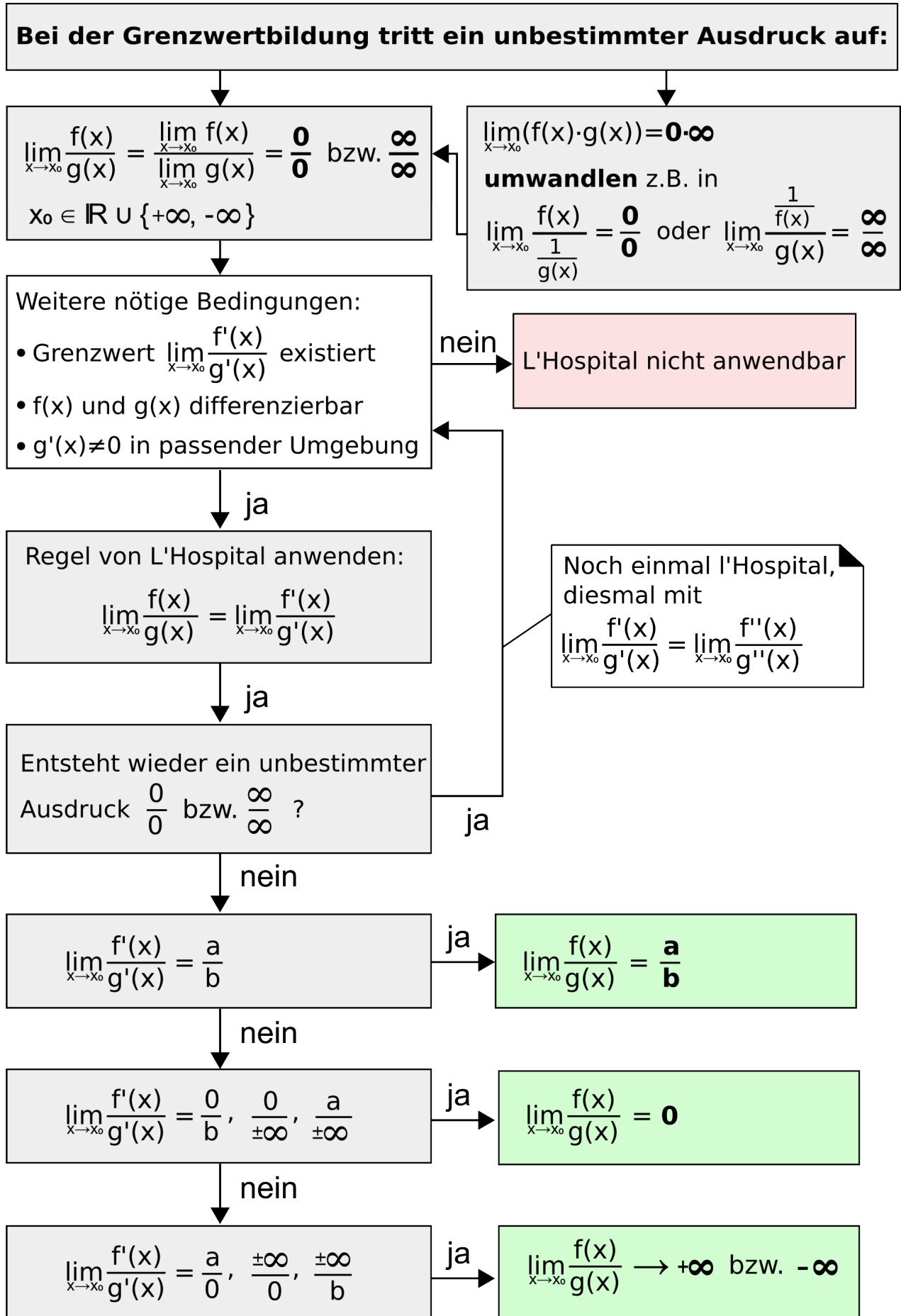




L'Hospital: Flußdiagramm





Beispiele:

	maxima
$\lim_{x \rightarrow 5} \left(\frac{2^{x-5} - 1}{\sin(x-5)} \right) \stackrel{\left[\frac{0}{0} \right]}{=} \lim_{x \rightarrow 5} \left(\frac{2^{x-5} \cdot \ln(2)}{\cos(x-5)} \right) = \ln(2)$	<code>limit((2^(x-5) - 1)/(sin(x-5)), x, 5);</code>
$\lim_{x \rightarrow \infty} \left(\frac{x^2}{e^x} \right) \stackrel{\left[\frac{\infty}{\infty} \right]}{=} \lim_{x \rightarrow \infty} \left(\frac{2x}{e^x} \right) \stackrel{\left[\frac{\infty}{\infty} \right]}{=} \lim_{x \rightarrow \infty} \left(\frac{2}{e^x} \right) = 0$	<code>limit((x^2)/%e^x, x, inf);</code>
$\begin{aligned} & \lim_{x \rightarrow 2} \left(\underbrace{\ln(x-1)}_{\rightarrow 0} \cdot \underbrace{\ln(x-2)}_{\rightarrow -\infty} \right) \\ = & \lim_{x \rightarrow 2} \left(\frac{\ln(x-2)}{\frac{1}{\ln(x-1)}} \right) \\ \stackrel{\left[\frac{\infty}{\infty} \right]}{=} & \lim_{x \rightarrow 2} \left(\frac{\frac{1}{x-2}}{\frac{-1}{(\ln(x-1))^2} \cdot \frac{1}{x-1}} \right) \\ = & - \lim_{x \rightarrow 2} \left(\frac{\overbrace{(\ln(x-1))^2 \cdot (x-1)}^{\rightarrow 0}}{\underbrace{x-2}_{\rightarrow 0}} \right) \\ \stackrel{\left[\frac{0}{0} \right]}{=} & - \lim_{x \rightarrow 2} \left(2(\ln(x-1)) \cdot \frac{1}{(x-1)} \cdot (x-1) + (\ln(x-1))^2 \right) \\ = & - \lim_{x \rightarrow 2} \left(\underbrace{2(\ln(x-1))}_{\rightarrow 0} + \underbrace{(\ln(x-1))^2}_{\rightarrow 0} \right) = 0 \end{aligned}$	<code>limit(log(x-1)*log(x-2), x, 2);</code>