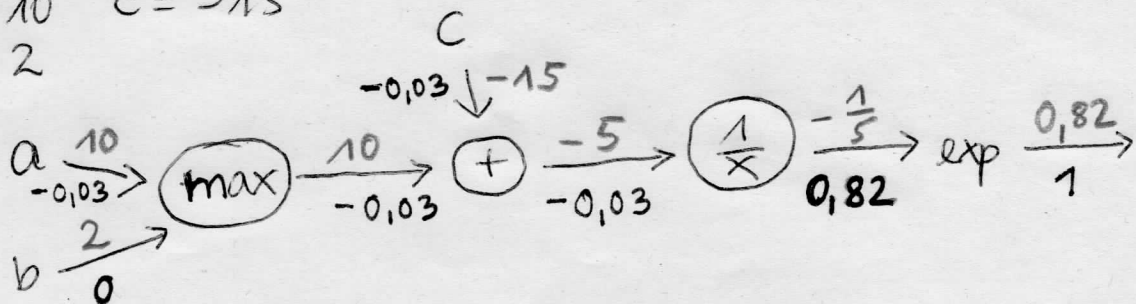


$$a = 10 \quad c = -15$$

$$b = 2$$



Backpropagation, gesucht:

$$\frac{\partial \text{out}}{\partial a}, \quad \frac{\partial \text{out}}{\partial b}, \quad \frac{\partial \text{out}}{\partial c}$$

$$\frac{\partial \text{out}}{\partial \exp} = \frac{\partial \text{out}}{\partial \text{out}}, \quad \frac{\partial \text{out}}{\partial \exp} = 1 \cdot e^x = 0.82$$

$$\frac{\partial \text{out}}{\partial \frac{1}{x}} = \frac{\partial \text{out}}{\partial \exp}, \quad \frac{\partial \exp}{\partial \frac{1}{x}} = 0.82 \cdot -\frac{1}{x^2} = 0.82 \cdot -\frac{1}{25} = -0.0328$$

$$\frac{\partial \text{out}}{\partial c} = \frac{\partial \text{out}}{\partial +}, \quad \frac{\partial +}{\partial c} = -0.03 \cdot 1 = -0.03 \rightarrow \text{gilt für beide Summanden}$$

(*) Wie würde man eine solche Ableitung für die max-Funktion aufschreiben?

$$\frac{\partial \text{out}}{\partial c} = -0.03, \quad \frac{\partial \text{out}}{\partial a} = -0.03, \quad \frac{\partial \text{out}}{\partial b} = 0$$