$$X \longrightarrow W^1 X + B^1 \longrightarrow \text{ReLu} \longrightarrow W^2 X + B^2 \longrightarrow \text{Softmax} \longrightarrow \text{Cross Entropy} \longrightarrow \lambda$$

$$\uparrow X \qquad \uparrow Z^1 \qquad \uparrow A^1 \qquad \uparrow Z^2 \qquad \uparrow A^2 \qquad \uparrow \lambda$$

We want: $\dfrac{\partial \lambda}{\partial w}$ and: $\dfrac{\partial \lambda}{\partial b}$

Obtain first: $\dfrac{\partial \lambda}{\partial z}$

Consider: $\lambda = T(C)$ and:

$$\begin{pmatrix} \dfrac{\partial \lambda_1}{\partial c_{11}} & \dfrac{\partial \lambda_2}{\partial c_{12}} & \cdots \\[2ex] \dfrac{\partial \lambda_1}{\partial c_{21}} & \dfrac{\partial \lambda_2}{\partial c_{22}} & \cdots \\[1ex] \cdots \end{pmatrix}$$