

input (hidden dim)



vocab size.

$W_2 = [100, 27] \rightarrow$ o/p. 27 possible characters.

$b_2 = [27] \rightarrow$ vocab size.

$\text{logits} = h @ W_2 + b_2$

hidden layer $\leftarrow [32 \times 100]$

$\rightarrow [32 \times 27]$

$\text{counts} = \text{logits} \cdot \exp()$

$\text{prob}_i = \text{counts} / \text{counts} \cdot \text{sum}(1, \text{keepDims} = \text{True})$
 $\rightarrow [32 \times 27]$

$\text{prob}[\text{torch.arange}(32), Y] =$ probability of each of the 32 characters.

Negative Log Likelihood Loss

$\text{loss} = - \text{prob}[\text{torch.arange}(32), Y] \cdot \log() \cdot \text{mean}()$

$F. \text{cross_entropy}(\text{logits}, Y)$