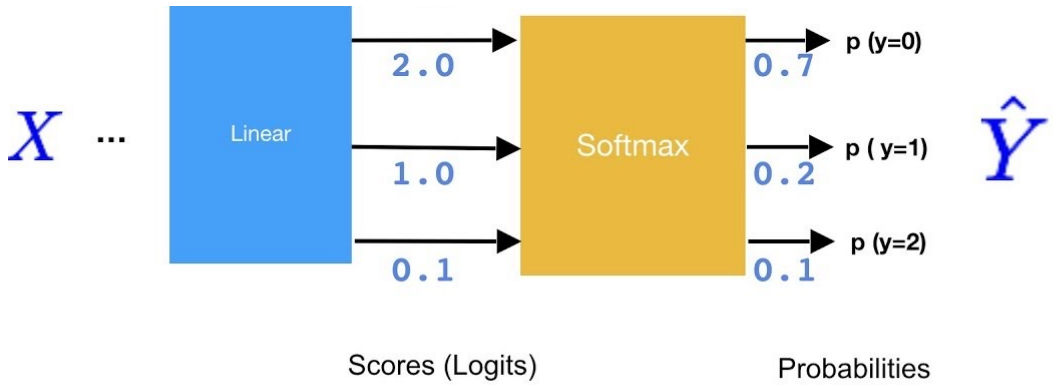
Softmax

$$S(y_i) = \frac{e^{y_i}}{\sum e^{y_i}}$$



Cross Entropy:

Cross Entropy Loss:

$$L(\Theta) = -\sum_{i=1}^{k} y_i \log(\hat{y}_i)$$

Dog 0.9

Cat 0.1

$$H(p,q) = -\sum_{x} p(x) \log q(x)$$

1
0

$$H(P,Q) = -\left(P(dog)\cdot \log Q(dog) + P(cat)\cdot \log Q(cat)\right)$$

$$= -\left(1\cdot \log 0.9 + 0\cdot \log 0.1\right)$$

$$= -\left(-0.045 + (-1)\right)$$

$$= -1.045$$