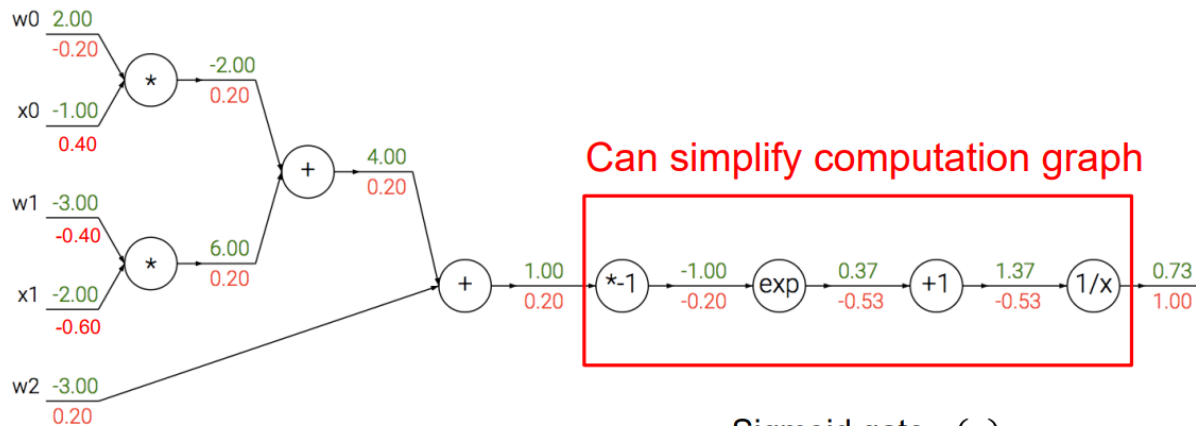


# CS324 Computation

## Example1: Backpropagation

### A detailed example

$$f(x, w) = \frac{1}{1 + \exp[-(w_0x_0 + w_1x_1 + w_2)]}$$



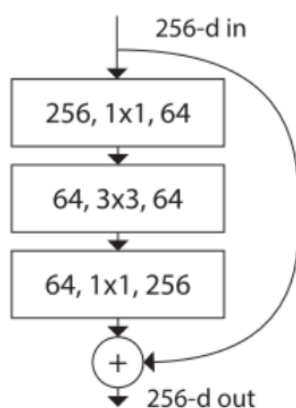
Sigmoid gate  $\sigma(x)$

$$\sigma'(x) = \sigma(x)(1 - \sigma(x))$$

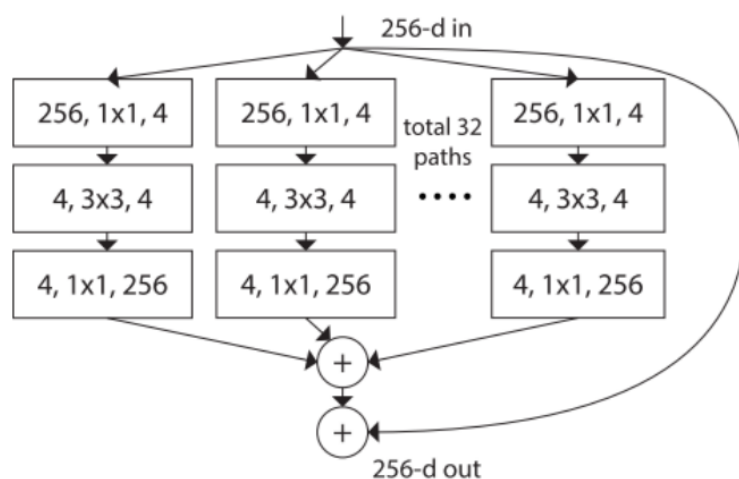
$$\sigma(1)(1 - \sigma(1)) = 0.73 * (1 - 0.73) = 0.20$$

## Example2: How many parameters?

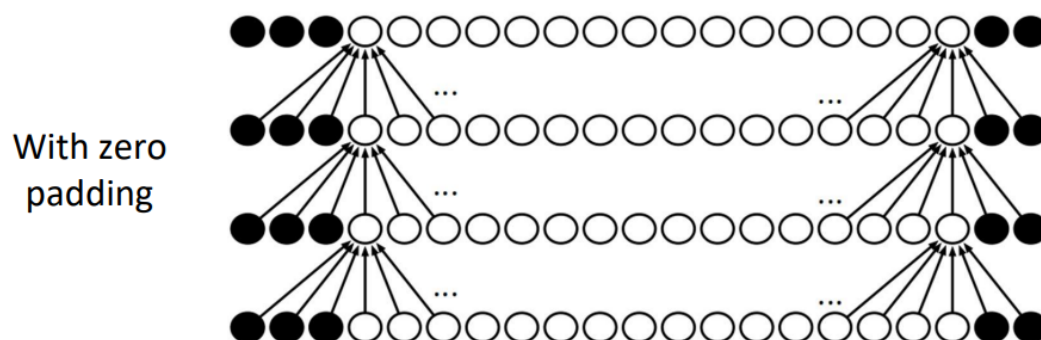
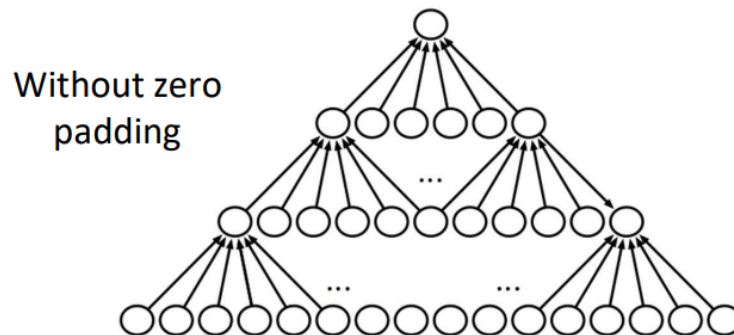
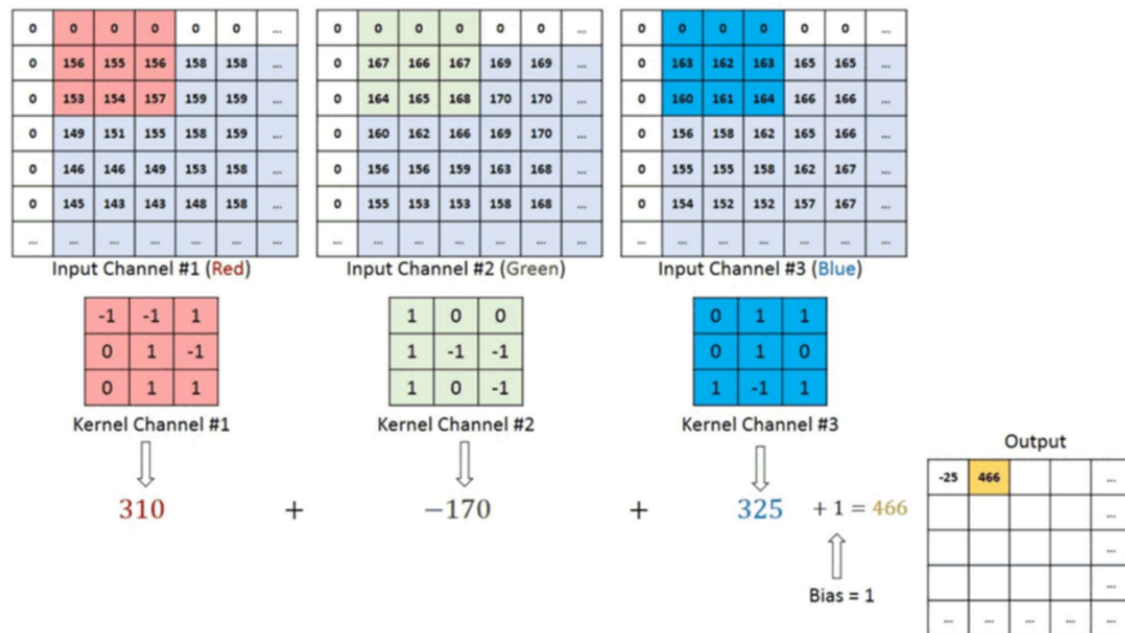
### ResNet



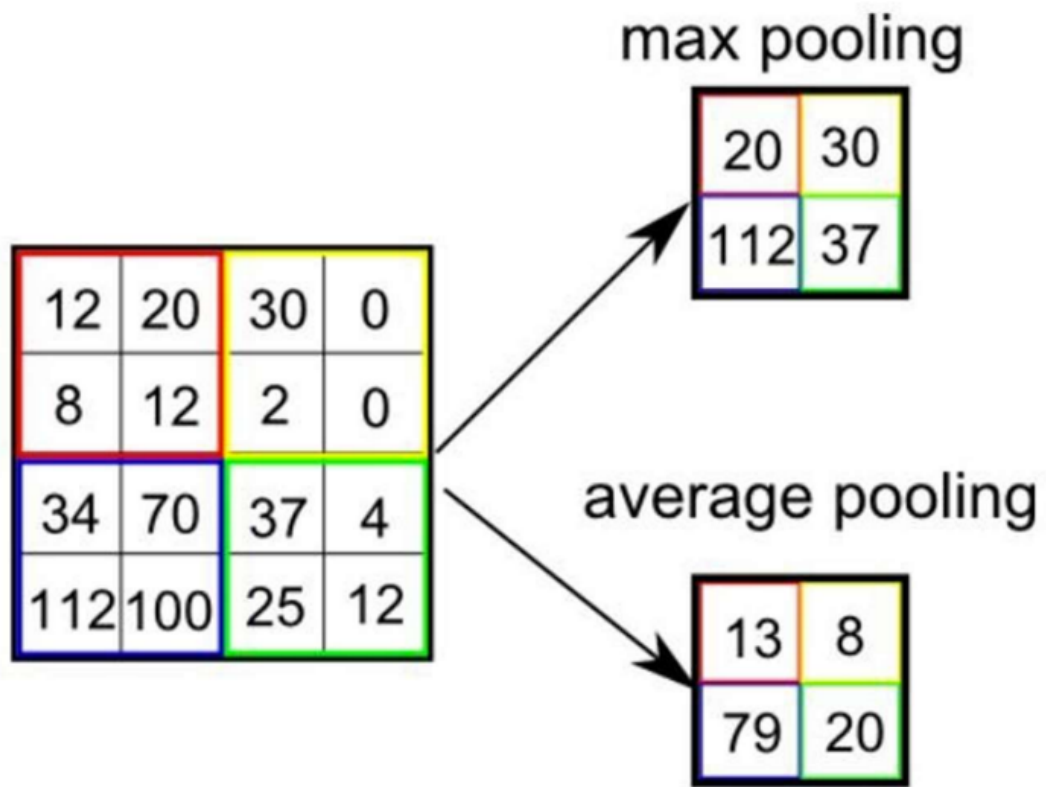
### ResNeXt



## Example3: Convolution & Padding



## Example 4: Pooling



\*Pooling and Stride [https://blog.csdn.net/m0\\_54487331/article/details/112846015](https://blog.csdn.net/m0_54487331/article/details/112846015)