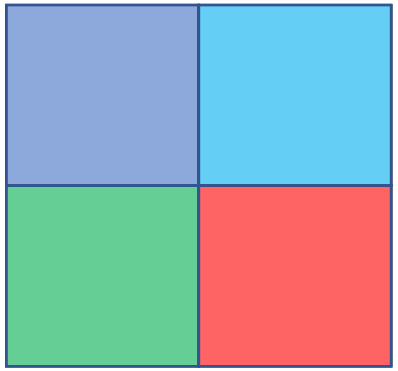
deeplearning.ai

# Convolutional Neural Networks

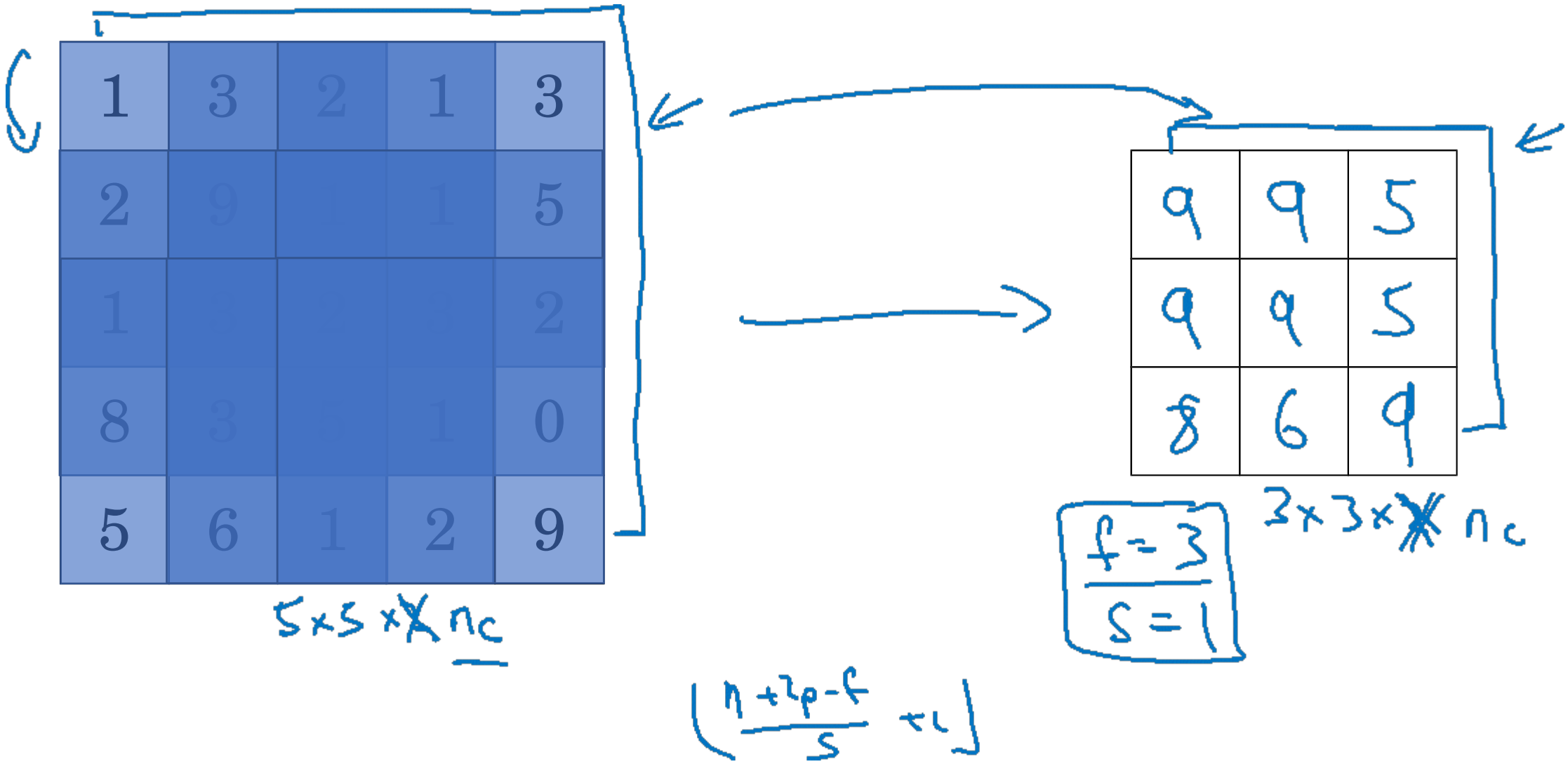
## Pooling layers

# Pooling layer: Max pooling

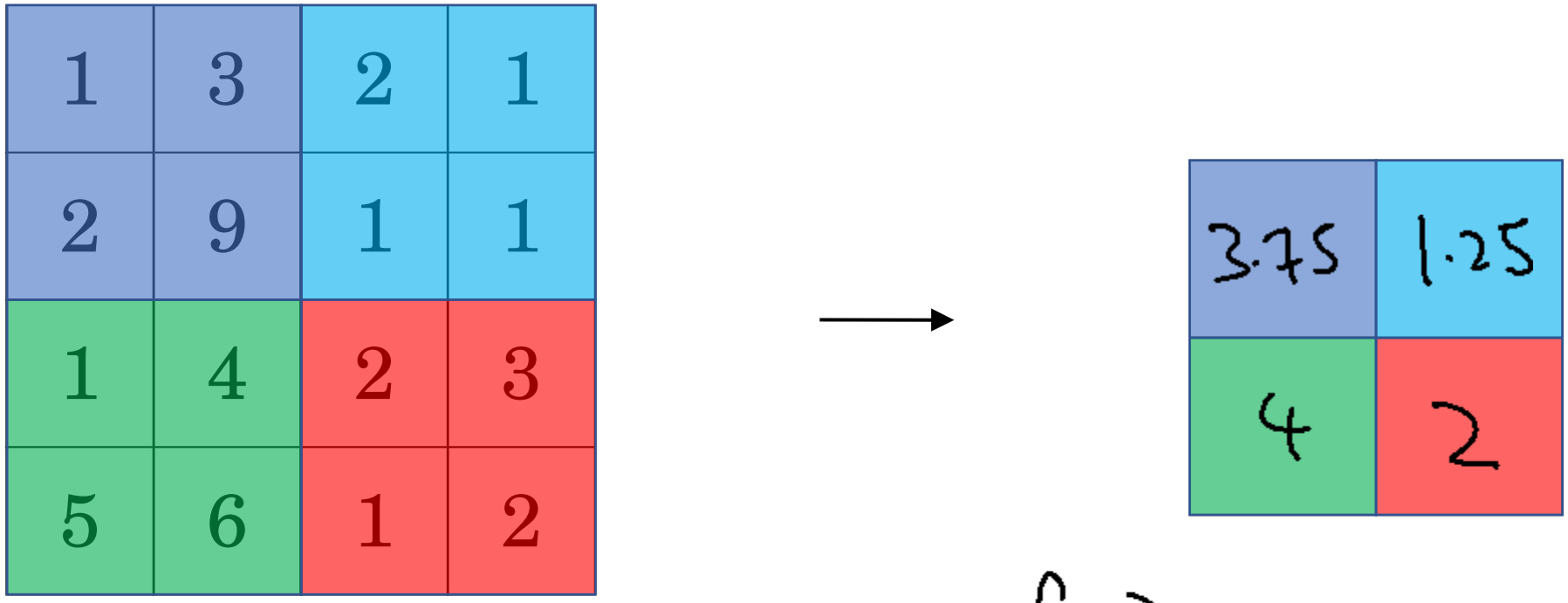
| | | | |
|---|---|---|---|
| 1 | 3 | 2 | 1 |
| 2 | 9 | 1 | 1 |
| 1 | 3 | 2 | 3 |
| 5 | 6 | 1 | 2 |



# Pooling layer: Max pooling



# Pooling layer: Average pooling



# Summary of pooling

Hyperparameters:

- f : filter size
- s : stride
- Max or average pooling
- ~~p : padding~~

$f=2, s=2$

$f=3, s=2$

$n_H \times n_W \times n_C$

$\downarrow$

$\left\lfloor \frac{n_H - f}{s} + 1 \right\rfloor \times \left\lfloor \frac{n_W - f}{s} + 1 \right\rfloor$

$\times n_C$

No parameters to learn!