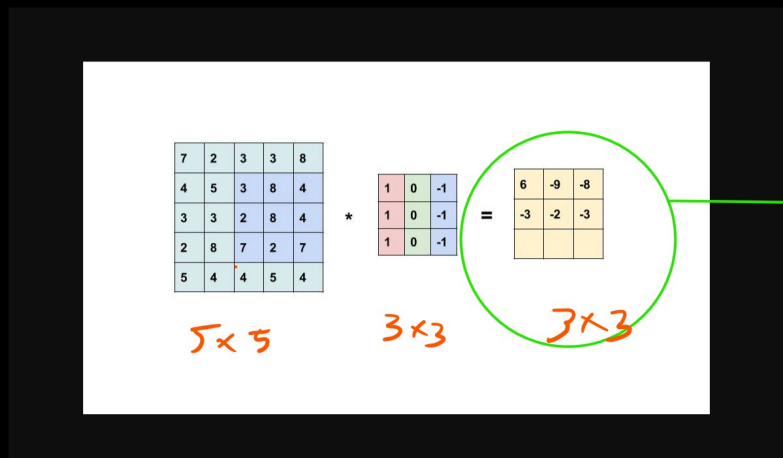


Agenda:

① padding in CNN

② Strides in CNN

$$(n-f+1) (n-f+1)$$



conv2

Tensorflow/
keras

padding

→ same → padding
→ valid → no padding

0	0	0	0	0	0	0
0	7	2	3	3	8	0
0	4	5	3	8	4	0
0	3	3	2	8	4	0
0	2	8	7	2	7	0
0	5	4	4	5	4	0
0	0	0	0	0	0	0

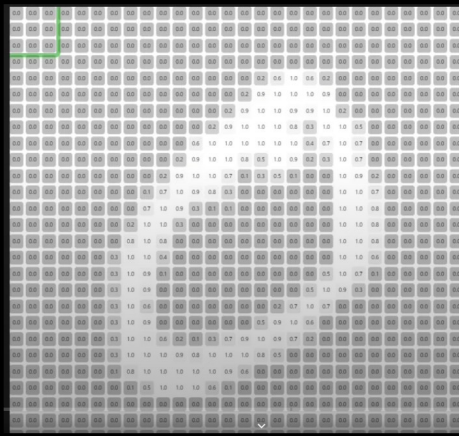
7x7

1	0	-1
1	0	-1
1	0	-1

3x3

↓
7x7 →

$$\begin{aligned} & (n-f+1) \leftarrow \\ \Rightarrow & (n+2p-f+1) \leftarrow \\ \Rightarrow & (7+2(3)-3+1) \\ \Rightarrow & (7+2-3+1) \\ \Rightarrow & 7 \end{aligned}$$



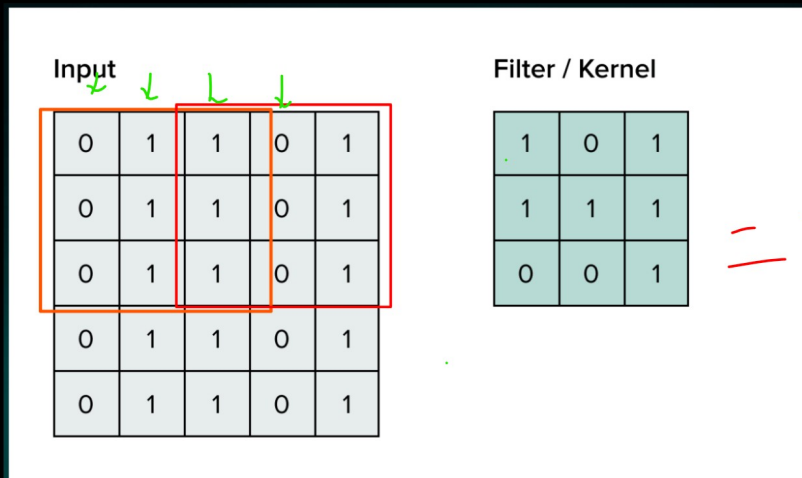
32



F_m
32



⋮



→ stride = 0
→ stride = 1



- ① Fast computation
- ② Less Time
- ③ High level feature

$$\left[\frac{n-f}{s} + 1 \right]$$

$$\Rightarrow \left[\frac{5-3}{2} + 1 \right]$$

$$\Rightarrow \frac{2}{2} + 1$$

$$\Rightarrow \frac{1}{1} + 1$$

$$= 2$$

$$(5 \times 5) \rightarrow (3 \times 3)$$

$$\text{stride} = 2$$

pooling Layer