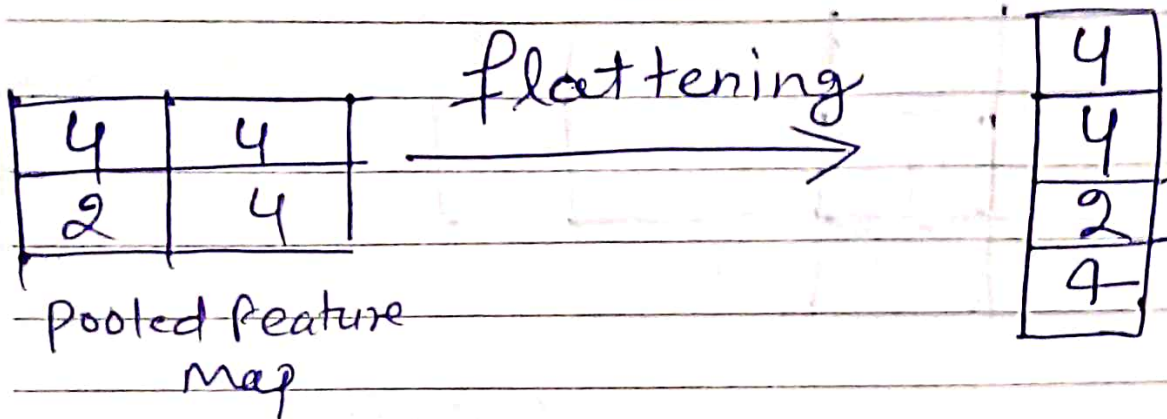


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Pooled Feature Map →



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Now Apply Max Pooling →

4	3	4
2	4	3
2	3	4

max pooling = 2×2 (filter)

4	3
2	4

~~pooling output~~

4	3
2	4

→ 4 (max)

4	
3	

→ 4 (max)

2	

→ 2 (max)

4	

→ 4 (max)

Output

4	4
2	4

pooled
feature
map

4	3	4
2	4	3
2	3	4

image = 3x3 (output)

(Convolved Feature Map) or feature
extraction

Formula

$$\frac{n + 2p - f + 1}{s}$$

$$= \frac{5 + 2 \times 0 - 3}{1} + 1$$

$$= \frac{5 + 0 - 3}{1} + 1$$

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

$$= 3 \quad (\text{here } 3 \times 3 \text{ convolve feature})$$

CNN

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Image (5x5) Size (Gray Scale)

1	1	1	0	0
0	1	1	1	0
0	0	1	1	1
0	0	1	1	0
0	1	1	0	0

Filter (3x3) → This is again hyper-parameter

1	0	1
0	1	0
1	0	1

Now Apply filter on Image →

No padding = 0
Stride = 1

1	1x1	1x0	1x1	0	0
2	0x0	1x1	1x0	1	0
3	0x1	0x0	1x1	1	1
	0	0	1	1	0
	0	1	1	0	0

$$1 \times 1 + 1 \times 0 + 1 \times 1 + \\ 0 \times 0 + 1 \times 1 + 1 \times 0 + \\ 0 \times 0 + 0 \times 0 + 1 \times 1$$

$$= 1 + 0 + 1 + 0 + 1 + 0 \\ + 0 + 0 + 1$$

$$= 4$$