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Answer to Question-1

Given.

Stride = 1

Padding = 1

Max polling = (2,2)

Input

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

Filter-1

1	0	1
1	1	1
0	0	1

Filter-2

0	0	1
1	0	0
0	1	1

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Let's perform the convolution for each filter

Convolution with Filter 1

0	2	4	2	1
1	4	7	4	2
1	4	7	4	2
1	4	7	4	2
0	2	4	2	1

Now Convolution with filter 2 -

0	1	3	3	1
1	2	4	3	1
1	3	6	4	2
1	3	5	3	1
0	1	2	1	0

After convolving with each filter the output sizes are the same as the input size due to the chosen padding and stride

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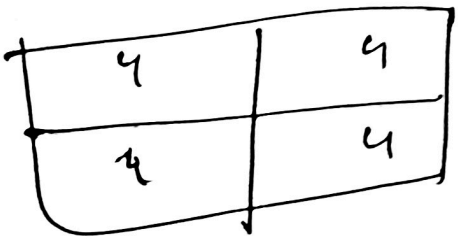
Next, we will implement max pooling using a 2×2 window on each of these outputs, effectively reducing their size by half.

Max pooling (2×2) for ~~Feat~~ filter 1 output



Max pooling (2×2) for Filter 2 output.