# Quiz 3

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section: 02

Sub :

Day

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## Ans. to the Ques. No. 1

input - 256 X 256

filters - 8 X 8 ; 6 filters

stride - 2

no padding of 0 - 0

max pool (2X2)

### # 1st set of convolution & max pooling

$$\text{width} = [(W + 2P - F)/S] + 1$$
$$= [(256 + (2 \times 0) - 8)/2] + 1$$
$$= 125$$

$$\text{height} = [(H + 2P - F)/S] + 1$$
$$= [(256 + (2 \times 0) - 8)/2] + 1$$
$$= 125$$

tensor (125 X 125)

after convolution, feature map value = 6 X 125 X 125

$\frac{125}{2} = 62.5 \sim 62$

Max pooling = 6 X 62 X 62

### # 2nd set of convolution & max pooling

$$\text{width} = [(W + 2P - F)/S] + 1$$
$$= [(62 + 0 - 8)/2] + 1$$
$$= 28$$

$$\text{height} = [(H + 2P - F)/S] + 1$$
$$= [(62 + 0 - 8)/5] + 1$$
$$= 28$$

Tensor = (28 X 28)

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after conv,

feature map value = 6 X 28 X 28

Max pooling = 6 X 14 X 14 ← $\frac{28}{2} = 14$

* setting the filters fixed

3rd set of convolution and Max pooling

Width = $[(W + 2P - F)/S] + 1$

$= [(14 + 0 - 8)/2] + 1$

$= 4$

Height = $[(H + 2P - F)/S] + 1$

$= [(14 + 0 - 8)/2] + 1$

$= 4$

tensor = (4 X 4)

after conv,

feature map = 6 X 4 X 4

* setting the filters fixed

Max pooling = 6 X 2 X 2 ← $\frac{4}{2} = 2$

∴ number of flattening layer nodes = 6 X 2 X 2

= 24

by changing the amount of filters value can be increased.

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Input

256X256

Convolution

6X3X3
256X256

6X125X125

Max pooling

(2X2)

6X62X62

6X3X3
62X62
Convolution

6X28X28

Max pooling

(2X2)

6X14X14

6X3X3
14X14
Convolution

6X4X4

Max pooling

(2X2)

6X2X2

Flattened

24