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Answer To The Question No: 2

The shared concept of CNN: A CNN has multiple layers. Weight sharing happens across the receptive field of neurons (filters) in a particular layer. Weights are the numbers within each filter. These filters act on a certain receptive field, small section of the image. When the filter moves through the image, the filter doesn't change. Here, if one have two networks and they share same weights. It means, when one network is trained, it will update the other those weights. The second network then use the same weights and also train them as well. It means that the same parameter will be used to represent two different transformers in the system. So, some matrix may be updated here several times.

Convolutional network for the given scenario:

Here, for denoting darker values, I will use 1 and for denoting lighter values, I will use 0.

$$W_1 =$$

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

$$W_2 =$$

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