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Question1:

- I have followed the NCHW format for each feature_map where
  - N is Number of maps,
  - C is number of channels,
  - (H, W) are dimensions of each feature of the map.

- tanh is the activation function used at the end of each layer and softmax is used at the last layer instead of gaussian.

Question2:

1. If input feature map has l dimensions and output feature map has k dimensions and filter is of size n*m then we have n*m*k*l parameters, assuming no bias is included in this layer. So, in our conv1 layer, no. of parameters is 5*5*6 = 150.

2. No parameters to learn in this layer as it is used only to reduce dimensions.

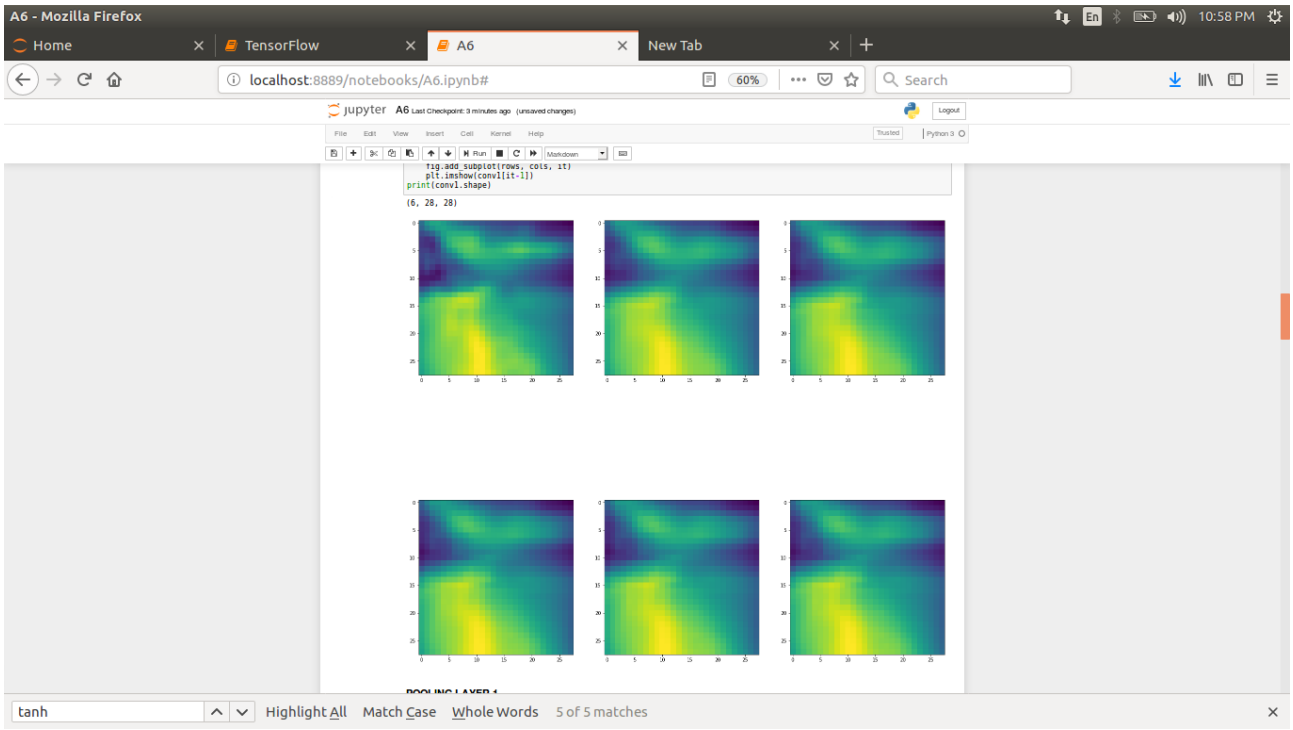
3. (c) Fully Connected Convolution Layer

4. (a) Convolutional Layer

5. Outputs at the end of each layer have been show through the form of images, they hold some meaning when tanh act. func. is not used (gaussian filtering can be seen as blurring and so on). Comment out tanh function calls to see this (as proof that filtering or convolution is working).

When tanh is not used as activation function after gaussian filtering:

After First Convolution:



After Second Convolution: