Lab2

2.14

(Dimensions x Filters) + Bias

conv = (20x(5x5) x1) +20 = 520

full con-layer= (2880X10)+ 10= 28810

total trainable parameters = 520+ 28810= 29330

2.16

* Blue layer = 10x(5x5) x 1 +1

In our case this implies about c250 multiplications at one position and to apply it at all the image so we will multiply by number of pixels in the image and that lead to c250 x Npix.

* Red layer placed after two dimension with 2 maxpooling layer at each maxpooling layer the image sizes will reduces by a factor of 2 in each dimension so after two maxpooling layers we go from 5x5 pixels to (5/4)x(5/4)=5x5/16 pixels

2.17

Blue layer = 10x(3x3) x1 +1 = 90

When we replace (5x5, 10) convolutional boxes with two (3x3, 10) convolutional boxes. The accuracy will be reduced, and it also took more computational time to perform because we reduce the filter size as compared to the previous scenario. As we decreased the filter size, we decreased the convolutional size that’s why it takes more time and give us less accuracy.