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Assignment 5
(Deadline: 17.06.2022)

Question 1

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For our neuronal network we used a common picture processing method, consisting of two convolutions (first one with a kernel size 10 and padding 5, second one with a kernel size 3 and padding 1). Each convolution layer follows a maxPool function with a kernel size (2,2).
Following this there are 4 linear layers. The first 3 have the ReLu activation function and the last one the sigmoid.

We experimented with the sizes of the layers, and we got good results with these layers:
self.fc1 = nn.Linear(6 * 48 * 27, 1500)
self.fc2 = nn.Linear(1500, 150)
self.fc3 = nn.Linear(150, 64)
self.fc4 = nn.Linear(64, 1)

As optimizer and criterion we used the same as the one of the sample script.
We changed the batch size to 32 and the epoch amount to 25.
We also changed the learning rate to 0.05
The procedure how we got to this neuronal network was manly trial and error.
We played around with the parameters until we were satisfied with the result.
We then let the network train for several times, since the weights are getting initialized with random numbers and so the end result changes a bit from time to time.

In the end we got a network which could identify 98,1% correct of the images.
Test set: Average loss: 0.0000, Accuracy: 1478/1506 (98,1%)