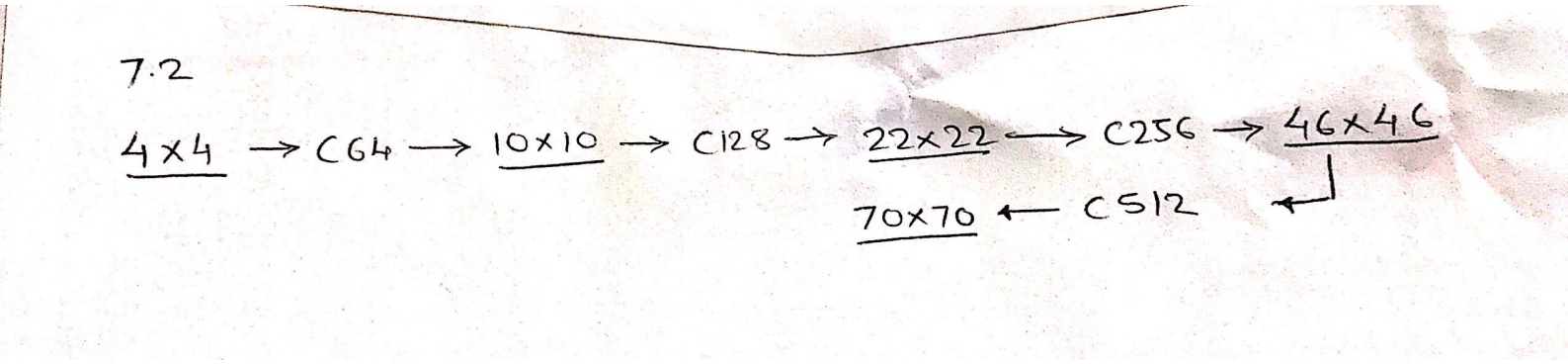
7.2



7.3]

Why only minimizing the L1 Loss results in a blurry image?

- L1 loss for a CNN is the difference between predicted & growth truth pixels.
- L1 loss is minimized by averaging all plausible outputs, which causes blurring.
- Since L1 loss is a pixel to pixel loss, it minimizes it by averaging all the possible & plausible location of that pixel in the predicted image.
- Hence L1 loss is useful for low-frequency correction & not suitable for high-frequency correction.

- In conditional GAN, patchGAN penalizes structure at the NxN patches. i.e. it tries to classify if each NxN patch is real or fake Hence, patchGAN looks after penalizing the structure while L1 loss penalizes ~~low frequency~~ low-frequencies.