U-Net and DenseNet

Paper 1: U-Net: Convolutional Networks for Biomedical Image Segmentation

Paper 2: DenseNet: Densely Connected Convolutional Networks

1. List four advantages of DenseNet discussed in paper 2.
2. How DenseNet connections are different from ResNet connections? Why the author chose one over the other, explain.
3. Explain why DenseNet requires fewer parameters than a traditional CNN. What are the advantages of having fewer parameters in DenseNet?
4. Explain how the DenseNet architecture leads to implicit deep supervision?
5. What does the author mean by,"desired output should include localization" in the context of paper 1.
6. Why does U-net double the number of features when the resolution of features is reduced by half?
7. What are the different purposes served by the feature connection from contracting path to expanding path as discussed in paper 1?
8. Explain why an architecture like U-net is suitable with smaller datasets?
9. What are the differences between DenseNet and GoogLeNet architectures?
10. Describe briefly. (a) dense blocks, (b) transition layers (paper 2), (c) growth rate (paper 2), (d) compression factor (paper 2)