Exercises to inf5442_h14_4

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1. What is meant by ‘black level’ in a digital picture?
2. List possible reason why a digital camera has a non-zero black level?
3. Explain why black level must be subtracted before being processed in the signal processing data path inside a camera. Give an example what can happen.
4. What is the role the demosaicing (or color interpolation) algorithm?
5. What artifact does demosaicing introduce in the image? What, if anything, can be done to mitigate this issue?
6. Explain the principle role of the color correction matrix in a digital camera.
7. If a CCM equals a unity matrix with only 1s in the diagonal and 0s all other coefficients, what does it say about the sensor?
8. What is the disadvantage of having relatively large CCM coefficients outside the diagonal?
9. Explain the basic principles used to white balance the output image in digital cameras.