Quiz Submissions - mini-Quiz 1

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Attempt 3

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Submission View

Your quiz has been submitted successfully.

Question 1 **1 / 1 point**

Consider a grayscale digital image with 200 rows and 210 columns, where each pixel can take values from 0 up to 1023.

How many bits are required to store such a digitized image?

Answer:

420,000 ✓

Question 2 **1 / 1 point**

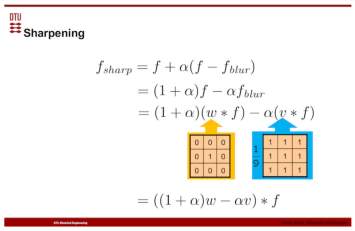


In the attached graphic, the left-most image is the original image. To create the middle image, the original was treated with a 9x9 mean filter.

What filter could have been used to produce the right-most image from the original (left-most) image?
(Choose all answers that might apply)

- ✓ ☐ 9x9 median filter
- ✓ ☑ 15x15 mean filter
- ✓ ☐ 9x9 max filter
- ✓ ☐ 5x5 median filter
- ✓ ☐ 5x5 mean filter

Question 3 **1 / 1 point**



We have seen in our lectures that we can implement a sharpening linear filter by a single convolution with an appropriate kernel, as shown in the attached graphic.
Assume that a=0.9 to calculate the sharpening filter kernel. Examine the elements of this kernel and answer the following questions:

The maximum value of all kernel elements is:

1.8 ✓(50 %)

The minimum value of all kernel elements is:

-0.1 ✓(50 %)

Question 4 **1 / 1 point**

How do we call the smallest change of a pixel's intensity that we are able to distinguish with a specific sensor?

- ○ Precision
- ○ None of the above
- ✓ ◉ Resolution
- ○ Saturation
- ○ Accuracy

Attempt Score:100 %

Overall Grade (highest attempt):100 %

Done