Notebook 2 Quiz Results for Joshua Cartwright Adams

Correct answers are hidden.

Score for this attempt: **4** out of 5
Submitted Oct 13 at 7:51pm
This attempt took 9 minutes.

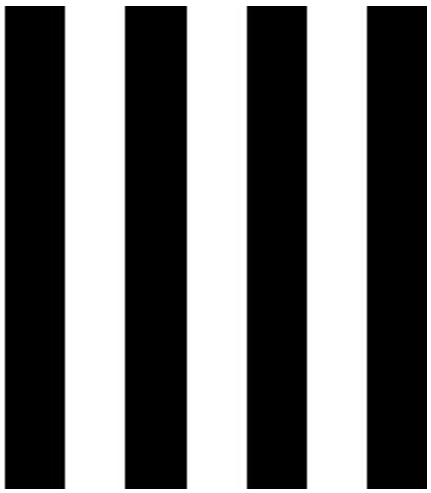
Incorrect

Question 1

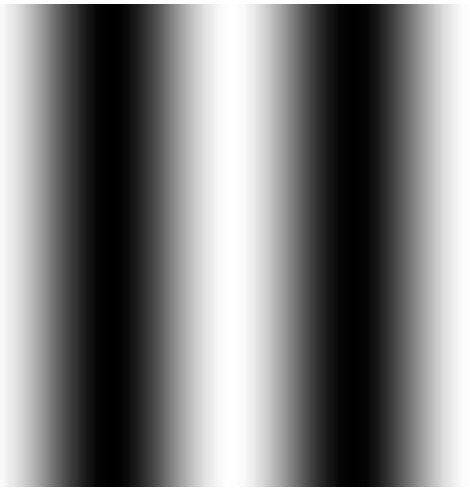
0 / 1 pts

Select the image corresponding to the array I[i, j] = 127.5 * cos(pi * j) + 127.5, for i, j=(0, 1, 2, ..., n). NOTE: The thumbnails shown are not to scale.

A

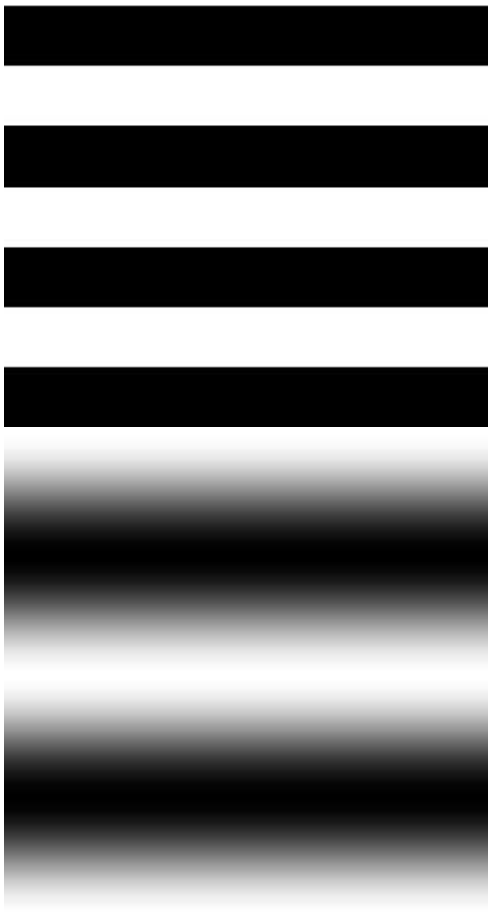


B

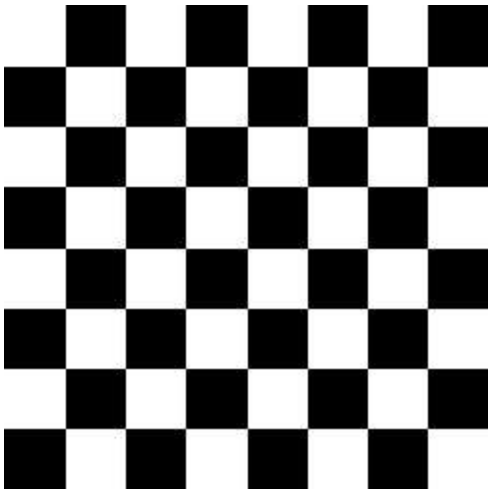


C

D



E



- A
- B
- C
- D
- E

Hint: note that the index variable can only take on integer values.

Question 2

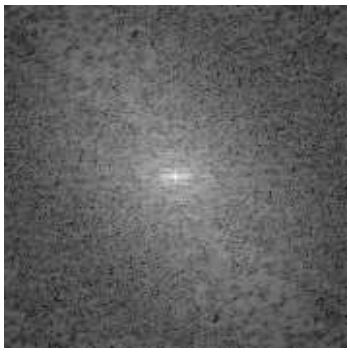
1 / 1 pts

Match the image on the left with the corresponding frequency spectra on the right.The images on the left include an original image, and copies that are faded near the edges by weighting the pixel intensities of the original image with a single period of a cosine wave with an amplitude between 0 and 1.

A

(original)

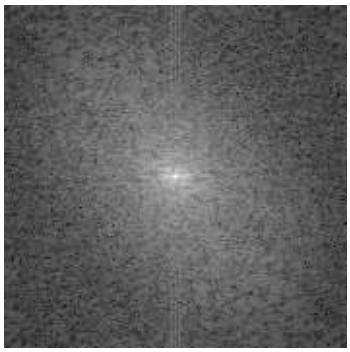
1



B

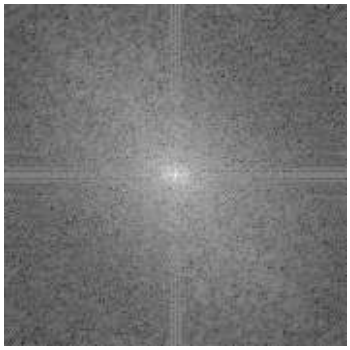
(horizontal fade)

2



C

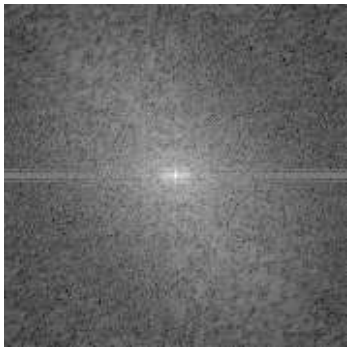
3



(vertical fade)

D

4



(both fade)

A	3
B	2
C	4
D	1

Very good! Fading the edges along a given axis eliminates the lines along that axis in the frequency image because it forces the image to be a periodic function.

Question 3

1 / 1 pts

Which frequency term comes first in the "standard order" for the discrete Fourier transform?

- the smallest negative root of unity
- the largest positive root of unity
- the DC component
- None of the Above

Question 4

1 / 1 pts

Given this image, select the output that results from applying the Discrete Fourier Transform on the image twice. [i.e., DFT(DFT(image))]

A

B

C

D

- (•) A
- ( ) B
- ( ) C

D

Correct! Applying the DFT twice results in an image that is flipped in both the horizontal & vertical axes.

Question 5

1 / 1 pts

Read the following statements, and select all that are true.

A. An octave consists of 8 frequencies

B. An octave consists of 1/8 step increments between two frequencies

C. An octave represents an additive difference by a power of two (i.e., x + 2^n or x - 2^n)

D. None of the above

- [ ] A
- [ ] B
- [ ] C
- [x] D

Good job! None of these choices are true. Octaves refer to a doubling or halving of frequency.

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