문제 1

1 / 1점

What is the result of applying spatial filtering on the pixel in red? The 3X3 spatial filter is given below

2	4	6	8	10
2	4	6	8	10
4	4	6	8	10
4	4	6	8	10
4	4	6	8	10

0	1/3	0
0	1/3	0
0	1/3	0

- (●) 4
- ( ) 2
- ( ) 3
- ( ) 5

문제 1

1 / 1점

Suppose you have an image shown below. The intensity level is 16, meaning that each pixel can have a value from 0-15. And you are going to make a normalized histogram of the image. What would be the value of the first bin when you set the number of bins as 8?

0	0	1	1
4	4	5	6
8	9	10	10
10	11	12	13

- 8
- 0.5
- 4
- 0.25

문제 1

1 / 1점

What is the purpose of applying spatial filtering with the mask given below?

-1	-2	-1
0	0	0
1	2	1

- (●) Applying partial derivatives with respect to y
- ( ) Applying partial derivatives with respect to x
- ( ) median filtering
- ( ) Average filtering

문제 1

0 / 1점

Which one is the result of excecuting threshold() on the input image?

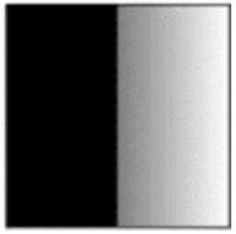
threshold (img,127,255,cv.THRESH_TOZERO)

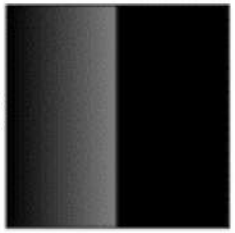
Original Image

a) 

b) 

c) 

d) 

e) 

- b
- a
- e
- d
- c

문제 1

1 / 1점

Which statement is true for background subtraction and morphological operation?

- In opening process, we perform dilation first and then perform erosion.
- As a result of closing, we can expect that small holes are elimiated.
- Dilation shrinks or thins objects in a binary image.
- Illumination(or lighting) shoul be changed a lot for accurate background subtraction.

문제 1

1 / 1점

Which statement is wrong for feature matching?

- Good matching can be estimated by Nearest-Neighbor-Distance Ratio(NNDR)
- A good feature should be invariant to illumniation, translation, scale, rotation and etc.
- Features may be specific structures in the image such as points, edges, or objects.
- Features using convolutional neural network are called hand-crated features.

문제 1

1 / 1점

Which statement is incorrect in explaining object detection and object tracking algorithms?

- Harr-like features can be defined as the difference of the sum of pixels of areas inside the rectangle.
- To use an object tracking algorithm, a ROI (Region of Interest) must be selected through user interaction or detection.
- **In a cascade classifier designed for face detection, the first strong learner typically contains the most weak learners.**
- The purpose of using an integral image is to reduce the computational cost of calculating Harr-like features.

문제 1

1 / 1점

How many corresponding pairs are required at minimum to calculate the perspective transformation matrix?

- 3
- 5
- 2
- 4 (선택됨)

문제 1

1 / 1점

Which is not correct related with camera modeling?

- When we use check pattern for camera calibration, we must know the physical size of a pattern.
- In homogenous coordinates, (2,2,2) is different from (4,4,4).
- The distance between the camera center and the image plance is called focal length.
- In Bayer pattern, we have more green pixels than blue pixels and red pixels.

문제 1

1 / 1점

Calculate the Mean Squared Error (MSE) between the original image and the compressed image.

0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3

Original image

1	1	1	1
0	0	0	0
3	3	3	3
4	4	4	4

Compressed image

- (●) 1
- ( ) 12
- ( ) -1
- ( ) 16