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Week 10: Assignment 10

The due date for submitting this assignment has passed.

Due on 2022-10-05, 23:59 IST.

As per our records you have not submitted this assignment.

1) Consider the following: Weight array, W= [0.2, 0.7, 0.05, 0.75, 0.86, 0.21] and Input X = [0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9]. What is the next revised estimate S_t that is obtained by sliding the filter W_t over the input X_t?

NOTE: Include two digits after the decimal.

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: Range) 1.8,1.9

1 point

2) Given the following Input matrix and kernel, What is the (0,0) element in the output matrix of the convolution operation if the stride rate is 1? ***1 point***

Input Matrix:

1	2	3	4
2	1	4	3
1	3	2	4
4	1	2	3

Kernel Matrix:

1	2
2	1

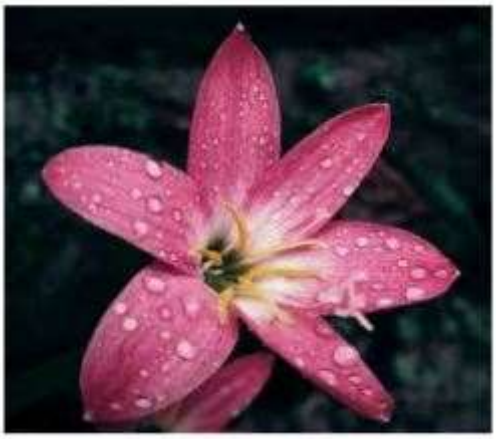
- 10
- 0
- 4
- 8

No, the answer is incorrect.
Score: 0

Accepted Answers:
10

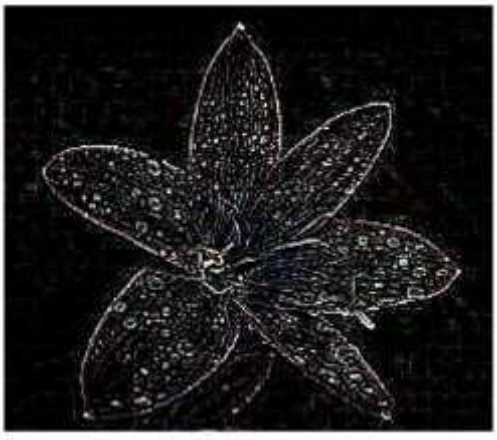
3) Predict the output image for the convolution operation on the given input image and filter. ***1 point***

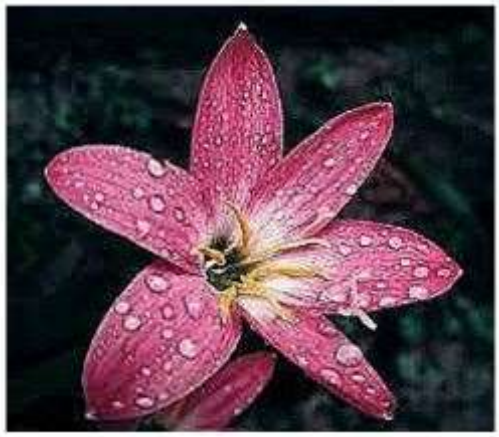
Input:



Kernel:

1	1	1
1	1	1
1	1	1





No, the answer is incorrect.
Score: 0

Accepted Answers:

4) Identify the kernel that can be used to sharpen an image. ***1 point***

1	1	1
1	-8	1
1	1	1

0	-1	0
-1	5	-1
0	-1	0

1	1	1
1	1	1
1	1	1

0	0	0
0	0	0
0	0	0

No, the answer is incorrect.
Score: 0

Accepted Answers:

0	-1	0
-1	5	-1
0	-1	0

5) Consider a 2D filter convolution over a 3D input. What would be the dimension of the output? ***1 point***

one

- two
- three
- point

No, the answer is incorrect.
Score: 0

Accepted Answers:
three

6) Given the input image with dimensions 125 × 49, filter of size 5 × 5, padding $P = 2$ and stride $S = 2$, what is the dimension of the output image of this convolution operation? ***1 point***

- 62 x 24
- 63 x 25
- 64 x 26
- None

No, the answer is incorrect.
Score: 0

Accepted Answers:
63 x 25

7) Pick out the technique(s) that involve static feature extraction using handcrafted kernels to learn the weights of the classifier. ***1 point***

- SIFT
- HOG
- Both SIFT and HOG
- Neither SIFT nor HOG

No, the answer is incorrect.
Score: 0

Accepted Answers:
Both SIFT and HOG

8) Given the stride rate 1, compute the output for the Average pooling operation on the given input matrix. ***1 point***

3	7	6	4
2	6	4	8
1	8	5	2
1	9	7	5

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4.5	5.75	5.5
4.25	5.75	4.75
4.75	7.25	4.75

4.5	5.75	4.75
4.25	5.75	5.5
4.75	4.75	4.75

4.5	4.75
5.5	4.75

4.5	4.25
4.75	5.75

No, the answer is incorrect.
Score: 0

Accepted Answers:

4.5	5.75	5.5
4.25	5.75	4.75
4.75	7.25	4.75

9) What is the number of parameters to be computed for the convolution operation given the following notations? ***1 point***

Input image dimension = $a \times a \times d$

Number of filters = n

Filter dimension = $f \times f$

Stride = s

Padding = p

- $(f \times f \times d) \times n$
- $(n \times n \times d) \times f$
- $(n \times f \times n) \times d$
- $(d \times d \times f) \times n$

No, the answer is incorrect.
Score: 0

Accepted Answers:
$(f \times f \times d) \times n$

10) Which of the following is True for Deep Dream Images? ***1 point***

- A single neuron fires more
- A single filter fires more
- A single filter do not fire
- A single neuron does not fire

No, the answer is incorrect.
Score: 0

Accepted Answers:

A single neuron fires more