Note that markers also attach importance to accuracy and clarity in expression and implementation.

		Max	Mark
Question 1			
1.1	Correct 3x3 moving average kernel with normalised weights, correct call of convolution function, reasonable output.	6	6
1.2	Correct 11x11 kernel with normalised weights, correct call of convolution function, reasonable output.	6	6
1.3	Discussion mentions:		
	Pro: Increased smoothness and noise suppression.	4	4
	Con: More blurriness and loss of sharpness.	4	2
Question 2			
2.1	Correct 3x3 Sobel kernel, call convolution function, correct calculation of gradient magnitude map, reasonable output.	8	8
2.2	Correct implementation of 2D Gaussian kernel, reasonable visualisation of Gaussian kernel.	12	12
2.3	Correct call of convolution for Gaussian smoothing, evaluation of computational time, reasonable gradient magnitude map.	6	6
2.4	Correct implementation of 1D Gaussian kernels, reasonable visualisation of Gaussian kernel along x-axis and y-axis.	12	12
2.6	Correct separable filtering for Gaussian smoothing, evaluation of computational time, reasonable visualisation of gradient magnitude map, show difference in results.	8	4
2.7	Discussion mentions:		
	Gaussian smoothing suppresses noise in gradient magnitude image.	4	4
	Separable 1D Gaussian filtering leads to the same result as 2D Gaussian filtering.	3	3
	Separable filtering substantially accelerates the computation.	3	3
Question 3			
3.1	Expand numpy array dimension, convert to Pytorch tensor.	4	4
3.2	correct use of Pytorch convolutional layer, reasonable output.	10	10
3.3	Correct implementation of Sobel convolutional layers, correct use of Pytorch convolutional layers, reasonable gradient magnitude map.	10	10
		Total	94

Note

No difference in results

Implementation is correct; however, it reflects poor coding style to make weights trainable for fixed filters

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