python programs to load image and apply smoothing linear spatial filters

import cv2

# Load image

image = cv2.imread('input\_image.jpg')

# Apply Gaussian blur

blurred\_image = cv2.GaussianBlur(image, (5, 5), 0)

# Display original and blurred images

cv2.imshow('Original Image', image)

cv2.imshow('Blurred Image (Gaussian)', blurred\_image)

cv2.waitKey(0)

cv2.destroyAllWindows()

import cv2

# Load image

image = cv2.imread('input\_image.jpg')

# Apply Median blur

blurred\_image = cv2.medianBlur(image, 5)

# Display original and blurred images

cv2.imshow('Original Image', image)

cv2.imshow('Blurred Image (Median)', blurred\_image)

cv2.waitKey(0)

cv2.destroyAllWindows()

import cv2

# Load image

image = cv2.imread('input\_image.jpg')

# Apply Bilateral filter

blurred\_image = cv2.bilateralFilter(image, 9, 75, 75)

# Display original and blurred images

cv2.imshow('Original Image', image)

cv2.imshow('Blurred Image (Bilateral)', blurred\_image)

cv2.waitKey(0)

cv2.destroyAllWindows()