

Name : Ramya.P  
Reg no : 212223240137

```
import cv2
import matplotlib.pyplot as plt
import numpy as np
image1=cv2.imread("/content/Screenshot_2025-09-27_133008.png")
image2=cv2.cvtColor(image1,cv2.COLOR_BGR2RGB)
kernel=np.ones((11,11),np.float32)/169
image3=cv2.filter2D(image2,-1,kernel)
plt.figure(figsize=(9,9))
plt.subplot(1,2,1)
plt.imshow(image2)
plt.title("Original Image")
plt.axis("off")
plt.subplot(1,2,2)
plt.imshow(image3)
plt.title("Average Filter Image")
plt.axis("off")
plt.show()
```

Original Image



Average Filter Image



Start coding or [generate](#) with AI.

```
kernel1=np.array([[1,2,1],[2,4,2],[1,2,1]])/16
image2=cv2.cvtColor(image1,cv2.COLOR_BGR2RGB)
image3=cv2.filter2D(image2,-1,kernel1)
plt.subplot(1,2,1)
plt.imshow(image2)
plt.title("Original Image")
plt.axis("off")
plt.subplot(1,2,2)
plt.imshow(image3)
plt.title("Weighted Average Filter Image")
plt.axis("off")
plt.show()
```

Original Image



Weighted Average Filter Image



```
gaussian_blur=cv2.GaussianBlur(image2,(33,33),0,0)
plt.subplot(1,2,1)
plt.imshow(image2)
plt.title("Original Image")
plt.axis("off")
plt.subplot(1,2,2)
plt.imshow(gaussian_blur)
plt.title("Gaussian Blur")
plt.axis("off")
plt.show()
```



Original Image



Gaussian Blur



```
median=cv2.medianBlur(image2,13)
plt.figure(figsize=(9,9))
plt.subplot(1,2,1)
plt.imshow(image2)
plt.title("Original Image")
plt.axis("off")
plt.subplot(1,2,2)
plt.imshow(median)
plt.title("Median Blur")
plt.axis("off")
plt.show()
```

Original Image



Median Blur



```
kernel2=np.array([[ -1,-1,-1],[2,-2,1],[2,1,-1]])
image3=cv2.filter2D(image2,-1,kernel2)
plt.subplot(1,2,1)
plt.imshow(image2)
plt.title("Original Image")
plt.axis("off")
plt.subplot(1,2,2)
plt.imshow(image3)
plt.title("Laplacian Kernel")
plt.axis("off")
plt.show()
```

Original Image



Laplacian Kernel



```
laplacian=cv2.Laplacian(image2,cv2.CV_64F)
plt.subplot(1,2,1)
plt.imshow(image2)
plt.title("Original Image")
plt.axis("off")
plt.subplot(1,2,2)
plt.imshow(laplacian)
plt.title("Laplacian Operator")
plt.axis("off")
plt.show()
```

WARNING:matplotlib.image:Clipping input data to the valid range for imshow with RGB data ([0..1] for floats or [0..255] for int

Original Image



Laplacian Operator



Could not connect to the reCAPTCHA service. Please check your internet connection and reload to get a reCAPTCHA challenge.