```python
# -*- coding: utf-8 -*-
"""
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"""

import cv2 as cv
import matplotlib.pyplot as plt
import numpy as np
import math

path = "/content/drive/MyDrive/vision/New folder/rubiks_cube.png"

img = cv.imread(path)

img = cv.cvtColor(img, cv.COLOR_BGR2GRAY)

img = cv.resize(img,(350,350))

plt.imshow(img, 'gray')

plt.title("Input")

plt.show()

print("Enter kernel height: ")

k_h = int(input())

print("Enter kernel weidth: ")

k_w = int(input())

kernel = np.zeros((k_h,k_w), np.float32)

sigma = 1

s = 2.0*sigma*sigma

pi = 3.1416

a = kernel.shape[0] // 2
b = kernel.shape[1] // 2

for i in range(-a, a+1):
    for j in range(-b,b+1):
        r = math.sqrt(i*i+j*j)
        r/=s
        r = math.exp(-(r))
```
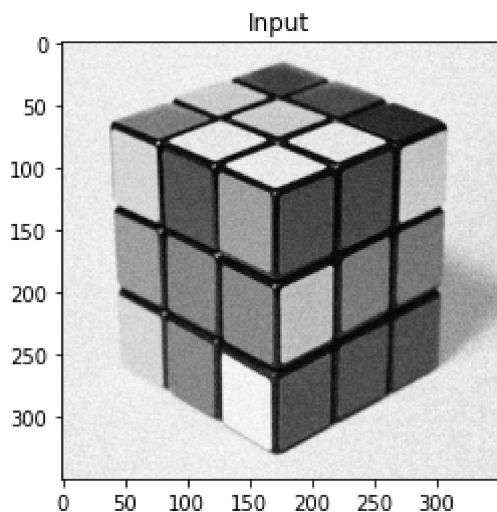
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            r/=(pi*s)
            kernel[i+a][j+b] = r


m = img.shape[0]
n = img.shape[1]
op = np.zeros((m,n), np.float32)
ksum = kernel.sum()

for i in range(m):
    for j in range(n):
        val = 0
        for x in range(-a,a+1):
            for y in range(-b,b+1):
                if i-x>=0 and i-x<m and j-y>=0 and j-y<n:
                    val+= kernel[x+a][y+b]*img[i-x][j-y]
                else:
                    val+=0
        val/=ksum
        op[i][j] = val
```


Input

```
Enter kernel height:
9
Enter kernel weidth:
9
```

```python
plt.imshow(op,'gray')
plt.title("Output for gaussian blurr")
plt.show()
```

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Output for gaussian blurr