In [111…

```
pip install opencv-python
```

```
Requirement already satisfied: opencv-python in c:\users\rohit\anaconda3\lib\site-packages (4.6.0.66)
Requirement already satisfied: numpy>=1.17.3 in c:\users\rohit\anaconda3\lib\site-packages (from opencv-python) (1.20.1)
Note: you may need to restart the kernel to use updated packages.
```

In [112…

```
import cv2
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
```

In [113…

```
img = cv2.imread(r'C:\Users\Rohit\Downloads\archive (2)\Bollywood Actor Images\Bollywood Actor Images\abhay_deo
rgb_image = cv2.cvtColor(img, cv2.COLOR_BGR2RGB)
```

In [114…

```
plt.imshow(rgb_image)
plt.axis('off')
plt.show()
```

In [115…

```
crop = cv2.resize(rgb_image,(100,100))
plt.imshow(crop)
plt.axis('off')
plt.show()
```

In [116…

```
def dist(a1,a2):
    return np.sum((a1-a2)**2)**.5
```

In [117…

```
def KNN(X,Y,test_point,k=1):
    tt =cv2.imread(r'C:\Users\Rohit\Downloads\archive (2)\Train' + X[0])
    t2 = cv2.resize(tt,(100,100))
    m=t2.shape[0]
    vals = []
    for i in range(19):
        con = cv2.imread(r'C:\Users\Rohit\Downloads\archive (2)\Train' + X[i])
        con1 = cv2.cvtColor(con, cv2.COLOR_BGR2RGB)
        con2 = cv2.resize(con1,(100,100))
        d = dist(con2,test_point)
        vals.append((d,Y[i]))

    vals = sorted(vals)
    vals = vals[:k]

    return vals
```

In [118…

```
df = pd.read_excel(r'C:\Users\Rohit\OneDrive - Adani Institute for Education and Research\Actor img data.xlsx')
```

In [119…

```
df.head()
```

Out[119…

	IMG jpg	Name
0	83ebbecbfd.jpg	abhay_deol
1	3edcbb13ec.jpg	adil_hussain
2	5e69cc977a.jpg	ajay_devgn
3	4e3c92ce8c.jpg	akshay_kumar
4	31bdee0cde.jpg	akshaye_khanna

In [120…

```
df.shape
```

Out[120… (19, 2)

In [121…

```
data = df.values
```

In [122…

```
Y = data[:,1]
X = data[:,0]
```

In [126…

```
Y
```

Out[126…

```
array(['abhay_deol', 'adil_hussain', 'ajay_devgn', 'akshay_kumar',
       'akshaye_khanna', 'amitabh_bachchan', 'amjad_khan', 'amol_palekar',
       'amole_gupte', 'amrish_puri', 'anil_kapoor', 'annu_kapoor',
       'anupam_kher', 'anushka_shetty', 'arshad_warsi', 'aruna_irani',
       'ashish_vidyarthi', 'asrani', 'atul_kulkarni'], dtype=object)
```

In [125…

```
X
```

Out[125…

```
array(['83ebbecbfd.jpg', '3edcbb13ec.jpg', '5e69cc977a.jpg',
       '4e3c92ce8c.jpg', '31bdee0cde.jpg', '29f4d934c9.jpg',
       '2d7dc4570f.jpg', 'fca3bf65dd.jpg', '4b19bdb426.jpg',
       '387d5724c6.jpg', '1e814f3111.jpg', '0ae3490a4f.jpg',
       '3fcbb304b3.jpg', '5d74cad8ce.jpg', '6c02dc8738.jpg',
       '15d23abca1.jpg', '4f0423dbb0.jpg', '9eb04183b5.jpg',
       '4f48024c0d.jpg'], dtype=object)
```

In [127…

```
df1 = pd.read_excel(r'C:\Users\Rohit\OneDrive - Adani Institute for Education and Research\testactor.xlsx')
df1.head()
df1.shape
```

Out[127… (9, 1)

In [129…

```
data = df1.values
Z = data[:,0]
Z
```

Out[129…

```
array(['83ebbecbfd.jpg', '3edcbb13ec.jpg', '5e69cc977a.jpg',
       '4e3c92ce8c.jpg', '31bdee0cde.jpg', '29f4d934c9.jpg',
       '2d7dc4570f.jpg', 'fca3bf65dd.jpg', '4b19bdb426.jpg'], dtype=object)
```

In [99]:

```
Z.shape
```

Out[99]: (9,)

In [143…

```
plt.figure()
i=0
for i in range(4):
    s1 = cv2.imread(r'C://Users//Rohit//Downloads//archive (2)//Train'  + X[i])
    s2 = cv2.cvtColor(s1, cv2.COLOR_BGR2RGB)
    c1 = cv2.resize(s2,(100,100))
    plt.subplot(2,5,i+1)
    #plt.imshow(c1)
   # plt.title("label: " + str(Y[i]))
    plt.axis('off')
    plt.show()
```

```
---------------------------------------------------------------------------
error                                     Traceback (most recent call last)
<ipython-input-143-ee3e3a770282> in <module>
      3 for i in range(4):
      4     s1 = cv2.imread(r'C://Users//Rohit//Downloads//archive (2)//Train'  + X[i])
----> 5     s2 = cv2.cvtColor(s1, cv2.COLOR_BGR2RGB)
      6     c1 = cv2.resize(s2,(100,100))
      7     plt.subplot(2,5,i+1)

error: OpenCV(4.6.0) D:\a\opencv-python\opencv-python\opencv\modules\imgproc\src\color.cpp:182: error: (-215:Assertion failed) !_src.empty() in function 'cv::cvtColor'
```

<Figure size 432x288 with 0 Axes>

In [107…

```
s1 = cv2.imread(r'C:\Users\Rohit\Downloads\archive (2)\Bollywood Actor Images\Bollywood Actor Images\abhay_deol
s2 = cv2.cvtColor(s1, cv2.COLOR_BGR2RGB)
c1 = cv2.resize(s2,(100,100))
#pred = KNN(X,Y,c1,1)
#print(pred)
plt.imshow(c1)
plt.axis('off')
plt.show()
```

In [ ]: