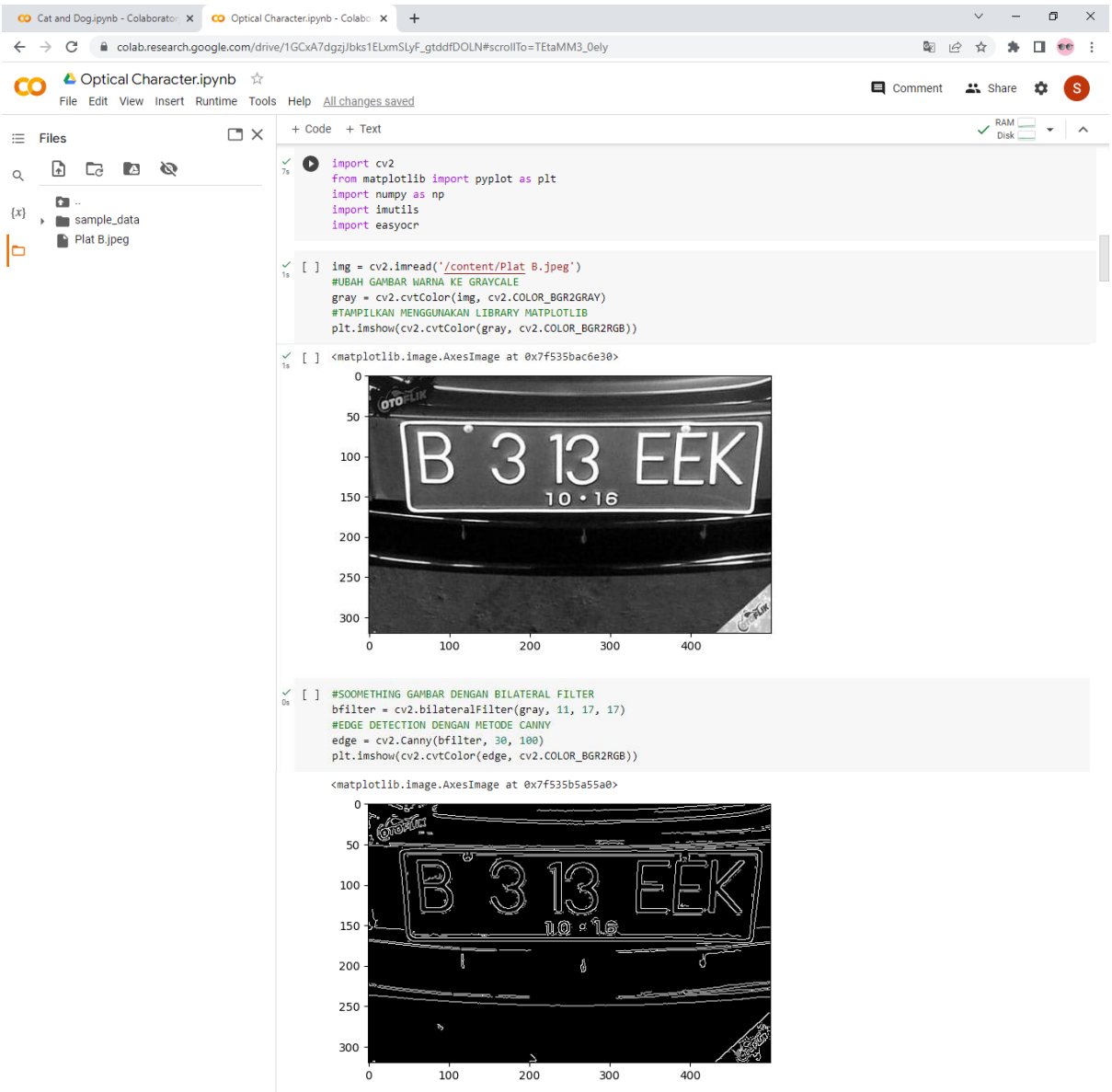
MODUL PYTHON

PENGOLAH CITRA MAIN

Penerapan Optical Character Recongnition

Berikut contoh penerapan optical character recongnition pada plat, dapat dilihat pada contoh program dibawah dimana gambar plat dengan menggunakan OCR dapat diekstrak menjadi suatu teks.



```
[ ] """
    FIND CONTOURS MENDETEKSI PERUBAHAN WARNA GAMBAR DAN MENANDAINYA SEBAGAI KONTUR.
    GAMBAR ATAU ANGKA YANG TERTULIS PADA CITRA AKAN DIDETEKSI SEBAGAI KONTUR
    """
    keypoints = cv2.findContours(edge.copy(), cv2.RETR_TREE, cv2.CHAIN_APPROX_SIMPLE)
    contours = imutils.grab_contours(keypoints)
    contours = sorted(contours, key=cv2.contourArea, reverse=True)[:10]
```

```
[7] """
    APPROXPOLYDP MEMUNGKINAN PERKIRAAN POLIGON (GAMBAR BANYAK SUDUT)
    JADI JIKA GAMBAR BERISI POLIGON, FUNSI INI AKAN CUKUP AKURATMENDETEKSINYA.
    """
    location = None
    for contour in contours:
        approx = cv2.approxPolyDP(contour, 10, True)
        if len(approx)==4:
            location = approx
            break
```

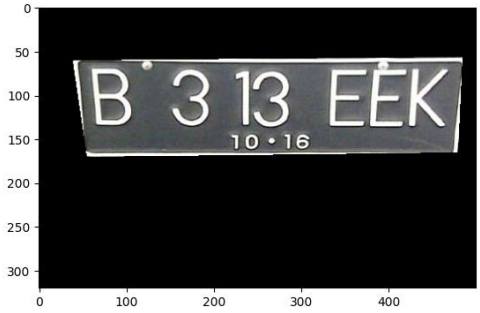
```
[8] location
```

```
array([[[ 39,  61]],

       [[484,  57]],

       [[479, 165]],

       [[ 55, 170]]], dtype=int32)
```

```
    """"
    DRAWCONTURS BERFUNSI UNTUK MELAPISI KONTUR PADA GAMBAR RGB ASLI
    """
    mask = np.zeros(gray.shape, np.uint8)
    new_image = cv2.drawContours(mask, [location], 0, 255, -1)
    new_image = cv2.bitwise_and(img, img, mask=mask)
```

```
[10] plt.imshow(cv2.cvtColor(new_image, cv2.COLOR_BGR2RGB))
```

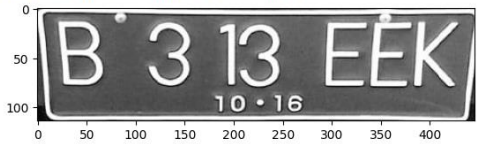
```
[10] <matplotlib.image.AxesImage at 0x7f535b60d810>
```




```
[11] #COMPPING GAMBAR
     (x,y) = np.where(mask==255)
     (x1, y1) = (np.min(x), np.min(y))
     (x2, y2) = (np.max(x), np.max(y))
     cropped_image = gray[x1:x2+1, y1:y2+1]
```

```
[12] plt.imshow(cv2.cvtColor(cropped_image, cv2.COLOR_BGR2RGB))
```

```
<matplotlib.image.AxesImage at 0x7f535a48faf0>
```




```
    #PENERAPAN LIBRARY EASYOCR
    reader = easyocr.Reader(['en'])
    result = reader.readtext(cropped_image)
    result
```

```
WARNING:easyocr.easyocr:CUDA not available - defaulting to CPU. Note: This module is much faster with a GPU.
WARNING:easyocr.easyocr:Downloading detection model, please wait. This may take several minutes depending upon your network
Progress: |████████████████████████████████████████| 100.0% CompleteWARNING:easyocr.easyocr:Downloading recognit
Progress: |████████████████████████████████████████| 100.0% Complete[([[13, 3], [259, 3], [259, 89], [13, 89]],
'B 313', 0.5518641809484176),
 ([[285, 1], [437, 1], [437, 91], [285, 91]], 'EEK', 0.9970115756101692),
 ([[176, 84], [274, 84], [274, 110], [176, 110]],
  '10 . 16',
  0.3899546607559775)]
```

```
[14] """
     DARI KONVERSI OCR TERDAPAT 3 LIST (DALAM BAHASA PEMROGRAMAN LAIN DISEBUT DENGAN ARRAY),
     UNTUK MENGELIMINASI BILANGANYANG TIDAK PENTING DAN HANYA MENGAMBIL VALUE HASIL OCR,
     TULISKAN KODE DIBAWAH.

     PENULISAN KODE DIBAWAH DISESUAIKAN DENGAN HASIL OCR,
     APABILA 2 LIST, HANYA TULISKAN SAMPAI LIST KEDUA,
     APABILA TIGA LIST, HANYA TULISKAN SAMPAI LIST KETIGA,
     """
     text1 = str.upper(result[0][1])
     text2 = str.upper(result[1][1])
     text3 = str.upper(result[2][1])
```

```
[15] #TAMPILKAN ISI VARIABEL TEXT
     text1, text2, text3
```

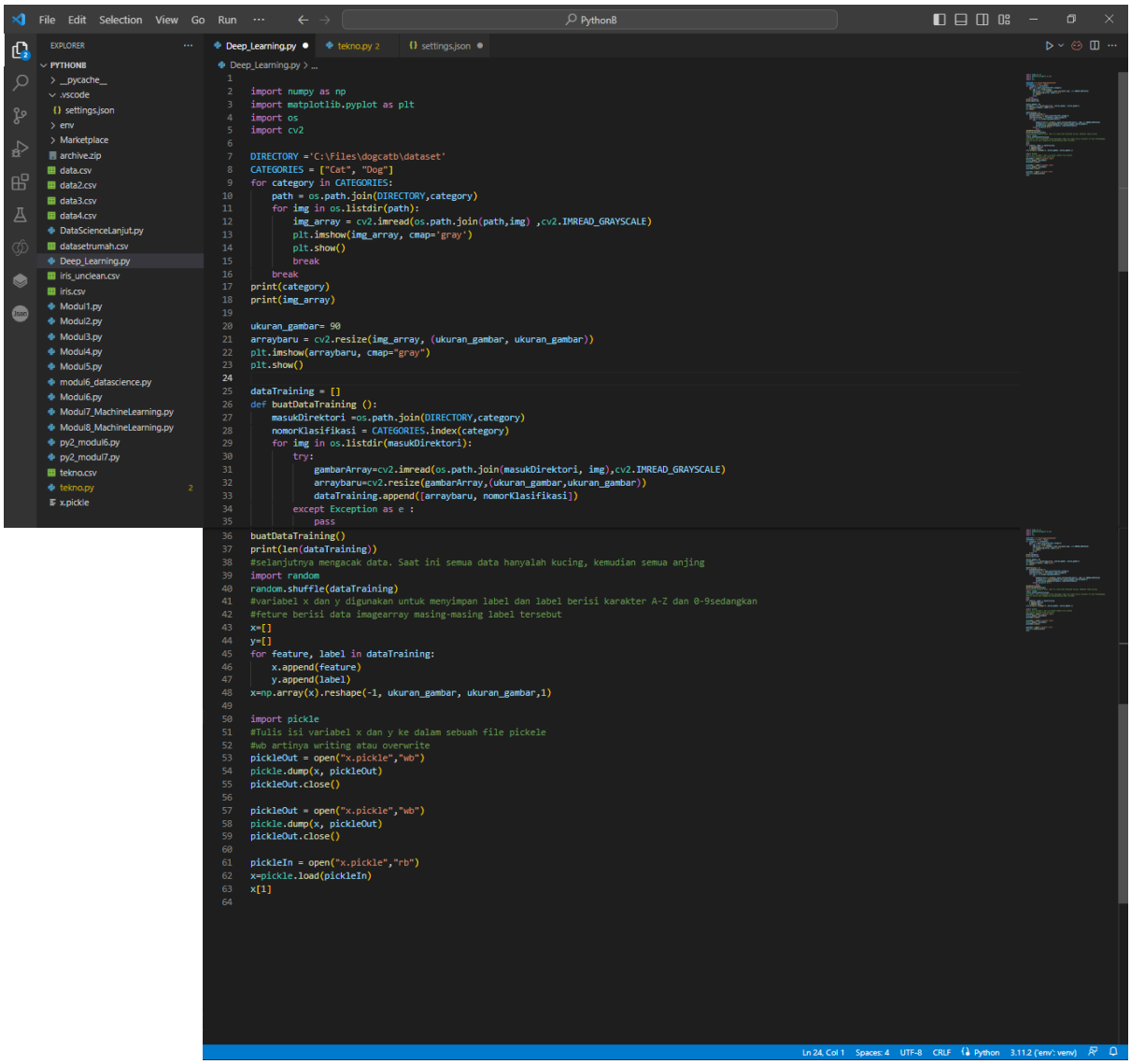
```
('B 313', 'EEK', '10 . 16')
```

0s completed at 8:32 AM

MODUL PYTHON

PENGOLAH CITRA MAIN

Cat and Dog



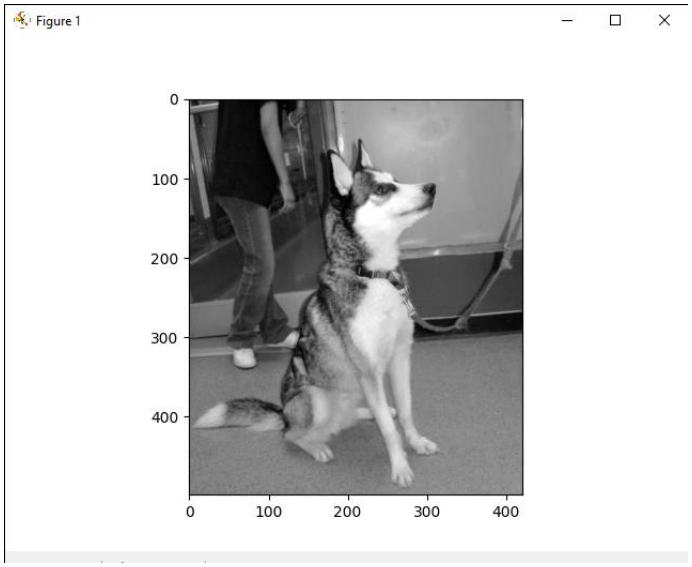


Figure 1
0
100
200
300
400
0
100
200
300
400

Dog

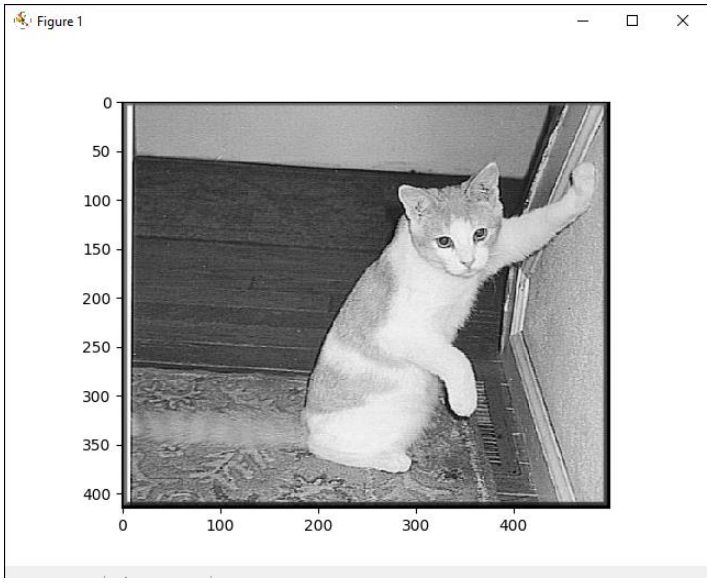


Figure 1
0
50
100
150
200
250
300
350
400
0
100
200
300
400

Cat