Caesar Noor .S.A

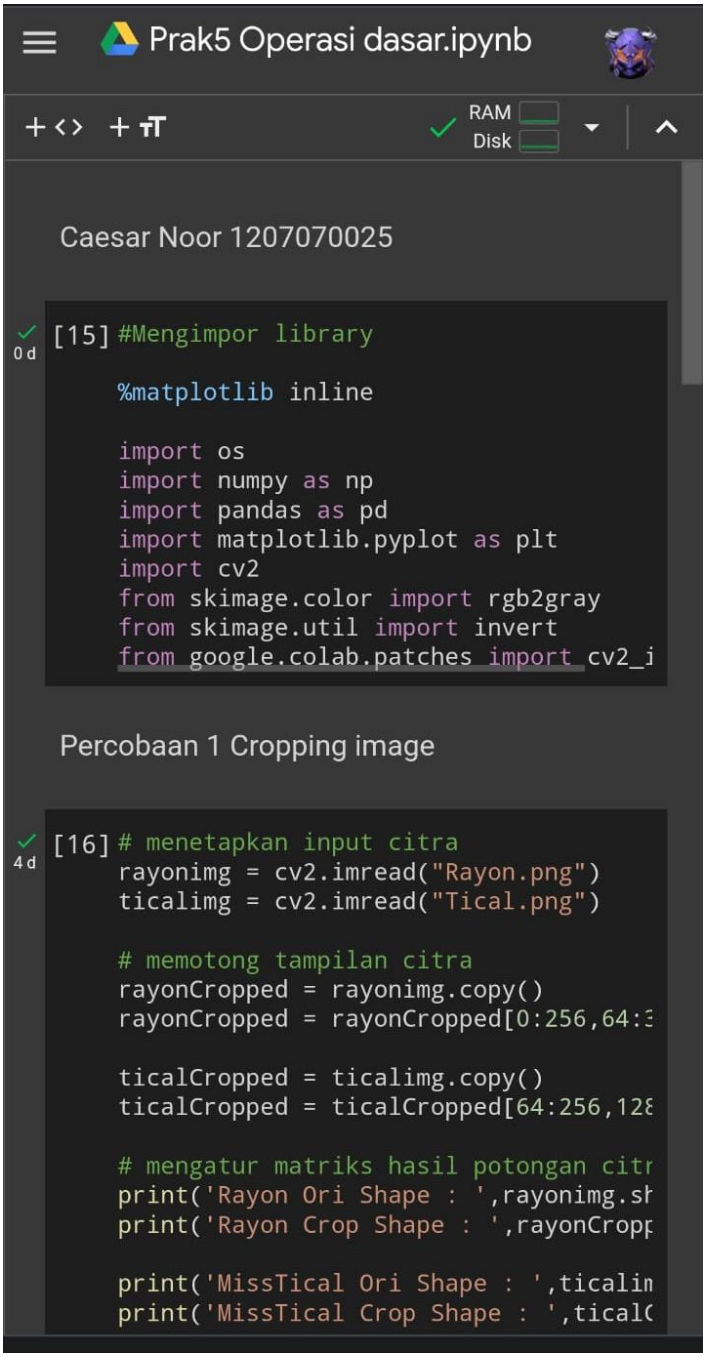
1207070025

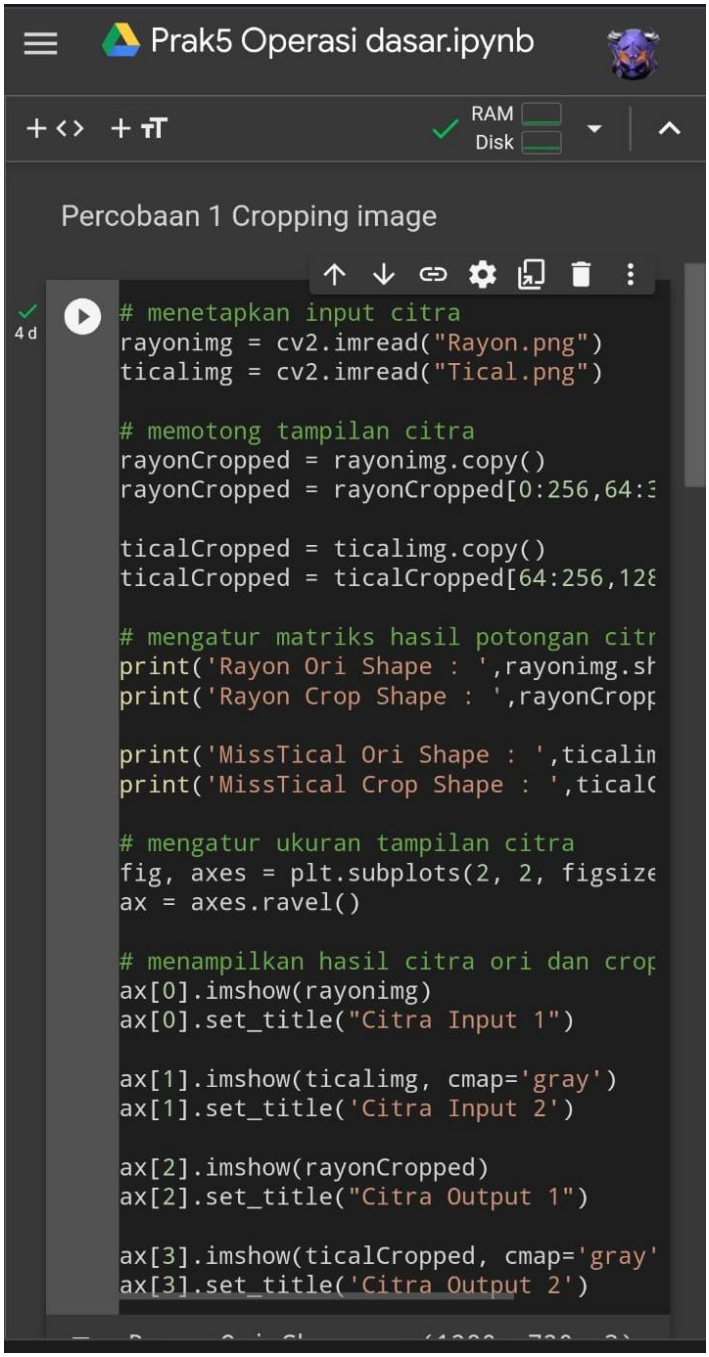
Praktikum 5

PCD

Hasil Screenshot :

Operasi Dasar



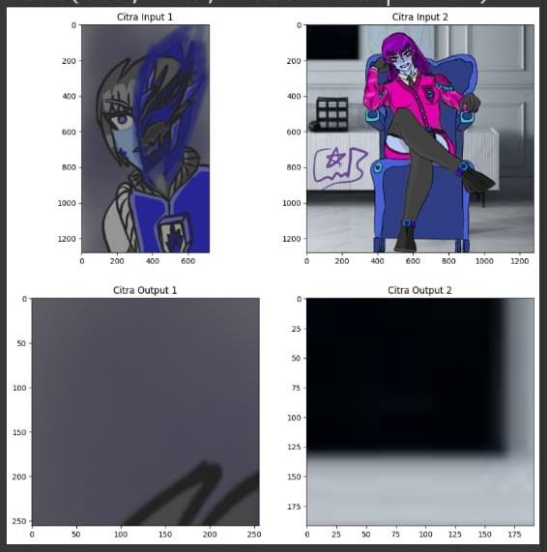


Prak5 Operasi dasar.ipynb

RAM
Disk

```
ax[3].imshow(
ax[3].set_title('Citra Output 2')
```

```
Rayon Ori Shape :  (1280, 720, 3)
Rayon Crop Shape :  (256, 256, 3)
MissTical Ori Shape :  (1280, 1280,
MissTical Crop Shape :  (192, 192,
Text(0.5, 1.0, 'Citra Output 2')
```



Percobaan 2 Citra negative

```
[17] # mengubah hasil citra yang sudah dipc
     inv = invert(rayonCropped)
     print('Shape Input : ', rayonCropped.s
     print('Shape Output : ',inv.shape)

     # mengatur ukuran citra
```

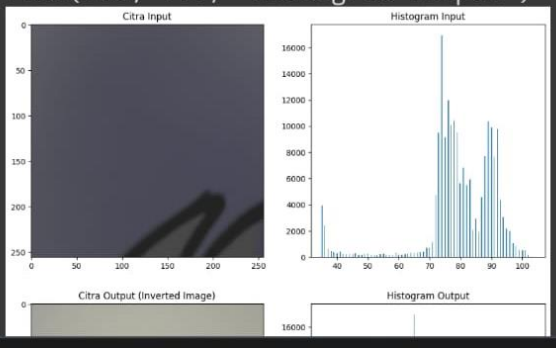
Prak5 Operasi dasar.ipynb

RAM
Disk

Percobaan 2 Citra negative

```
[17] # mengubah hasil citra yang sudah dipc
     inv = invert(rayonCropped)
     print('Shape Input : ', rayonCropped.s
     print('Shape Output : ',inv.shape)

     # mengatur ukuran citra
     fig, axes = plt.subplots(2, 2, figsize
     ax = axes.ravel()

     # menampilkan hasil citra
     ax[0].imshow(rayonCropped)
     ax[0].set_title("Citra Input")

     ax[1].hist(rayonCropped.ravel(), bins=
     ax[1].set_title('Histogram Input')

     ax[2].imshow(inv)
     ax[2].set_title('Citra Output (Inverte

     ax[3].hist(inv.ravel(), bins=256)
     ax[3].set_title('Histogram Output')
```

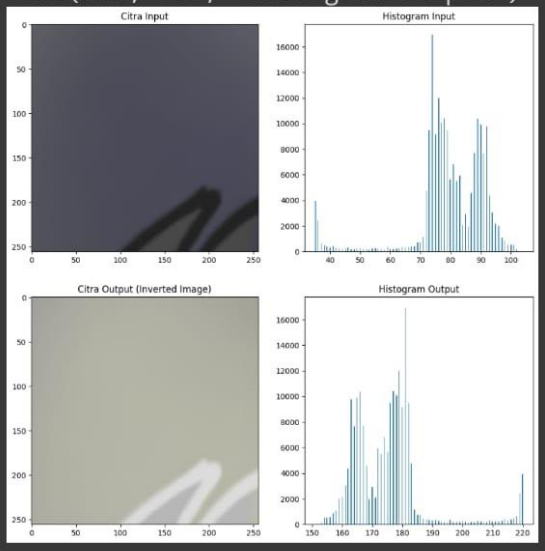
```
Shape Input :  (256, 256, 3)
Shape Output :  (256, 256, 3)
Text(0.5, 1.0, 'Histogram Output')
```



Prak5 Operasi dasar.ipynb

RAM
Disk

1 d [17]
```
Shape Input :  (256, 256, 3)
Shape Output :  (256, 256, 3)
Text(0.5, 1.0, 'Histogram Output')
```



0 d [23]
```
copyTical = ticalCropped.copy().astype

    m1,n1= copyTical.shape
    output1 = np.empty([m1, n1])

    for baris in range(0, m1-1):
        for kolom in range(0, n1-1):
            a1 = baris
            b1 = kolom
            output1[a1, b1] = copyTical[ba

    fig, axes = plt.subplots(2, 2, figsize
    ax = axes.ravel()

    ax[0].imshow(ticalCropped, cmap='gray'
    ax[0].set_title("Citra Input")
```

Prak5 Operasi dasar.ipynb

RAM
Disk

0 d [23]
```
copyTical = ticalCropped.copy().astype

    m1,n1= copyTical.shape
    output1 = np.empty([m1, n1])

    for baris in range(0, m1-1):
        for kolom in range(0, n1-1):
            a1 = baris
            b1 = kolom
            output1[a1, b1] = copyTical[ba

    fig, axes = plt.subplots(2, 2, figsize
    ax = axes.ravel()

    ax[0].imshow(ticalCropped, cmap='gray'
    ax[0].set_title("Citra Input")

    ax[1].hist(ticqlCropped.ravel(), bins=
    ax[1].set_title('Histogram Input')

    ax[2].imshow(output1, cmap='gray')
    ax[2].set_title('Citra Output (Brightr

    ax[3].hist(output1.ravel(), bins=256)
    ax[3].set_title('Histogram Input')
```

```
---------------------------------
---------------------------------
-----
ValueError
Traceback (most recent call last)
<ipython-input-23-e349c719b7f2> in
<cell line: 3>()
      1 copyTical =
ticalCropped.copy().astype(float)
      2
----> 3 m1,n1= copyTical.shape
      4 output1 = np.empty([m1,
```

Prak5 Operasi dasar.ipynb

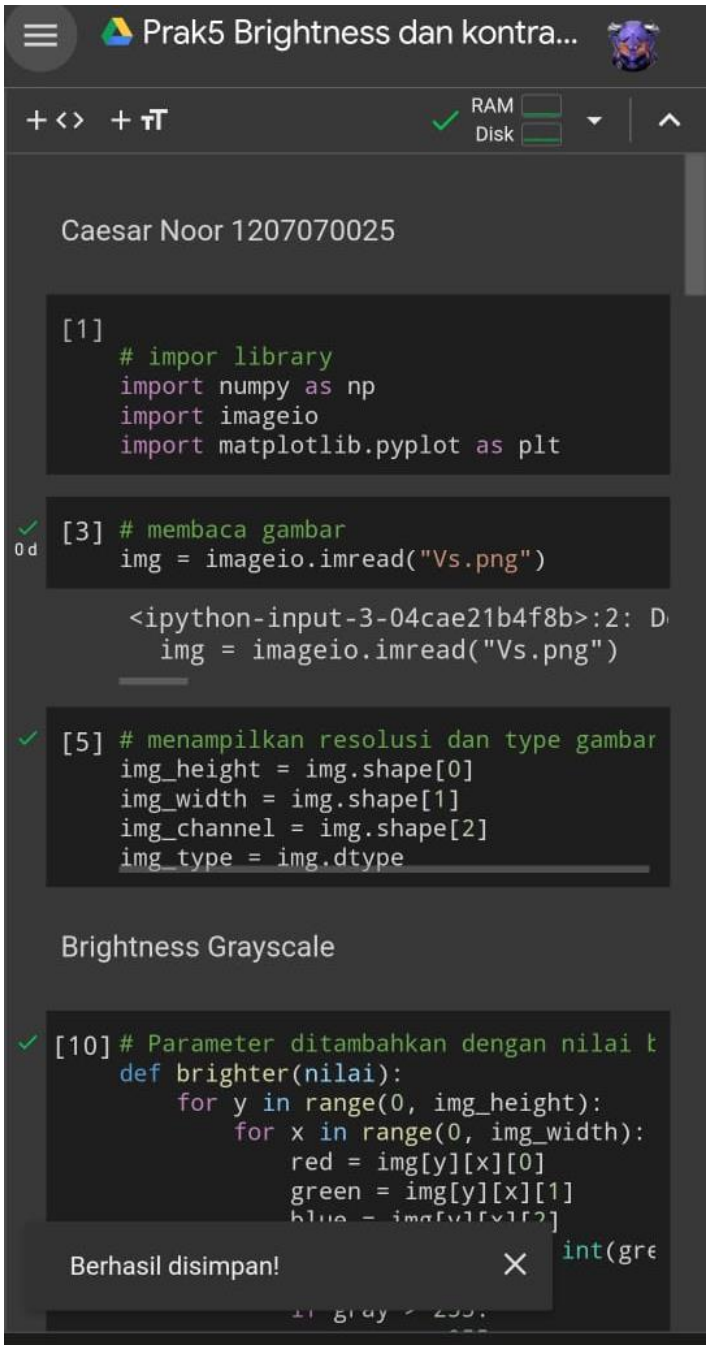
RAM
Disk

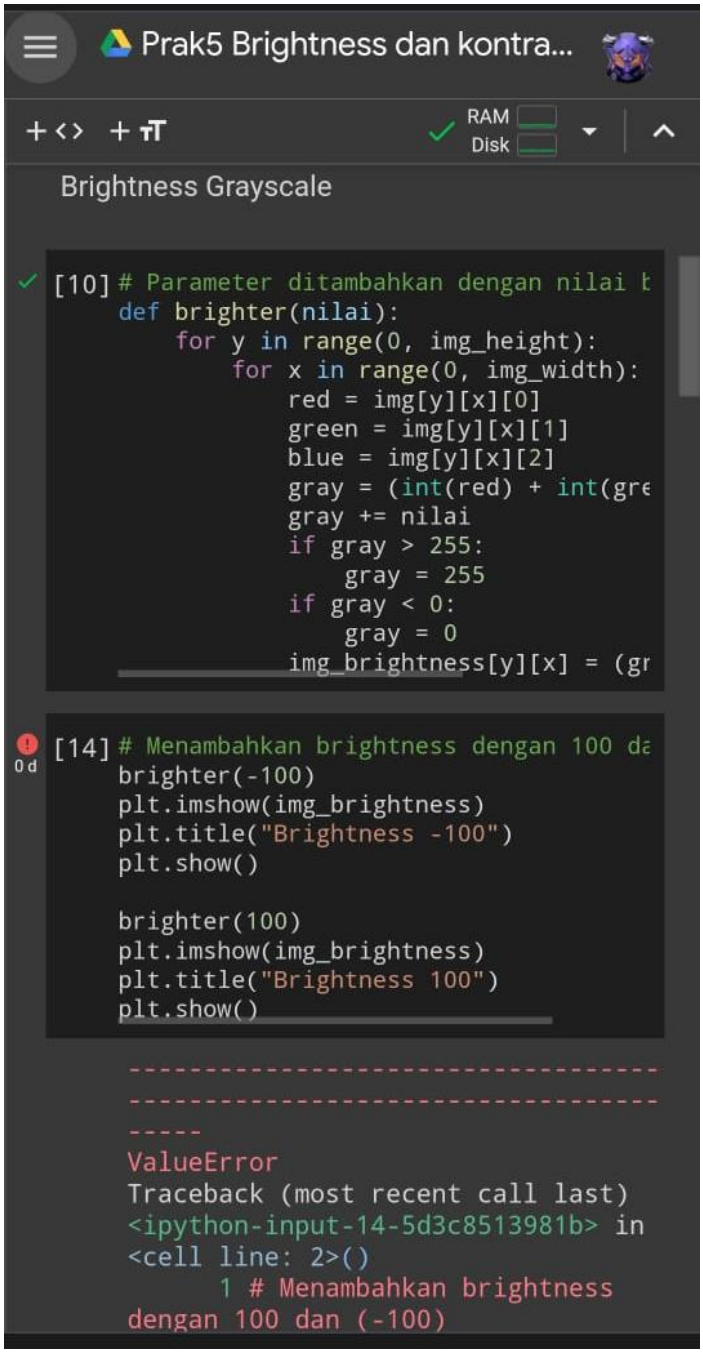
```
[23]            b1 = kolom
                output1[a1, b1] = copyTical[ba

    fig, axes = plt.subplots(2, 2, figsize
    ax = axes.ravel()

    ax[0].imshow(ticalCropped, cmap='gray'
    ax[0].set_title("Citra Input")

    ax[1].hist(ticqlCropped.ravel(), bins=
    ax[1].set_title('Histogram Input')

    ax[2].imshow(output1, cmap='gray')
    ax[2].set_title('Citra Output (Brightr

    ax[3].hist(output1.ravel(), bins=256)
    ax[3].set_title('Histogram Input')
```

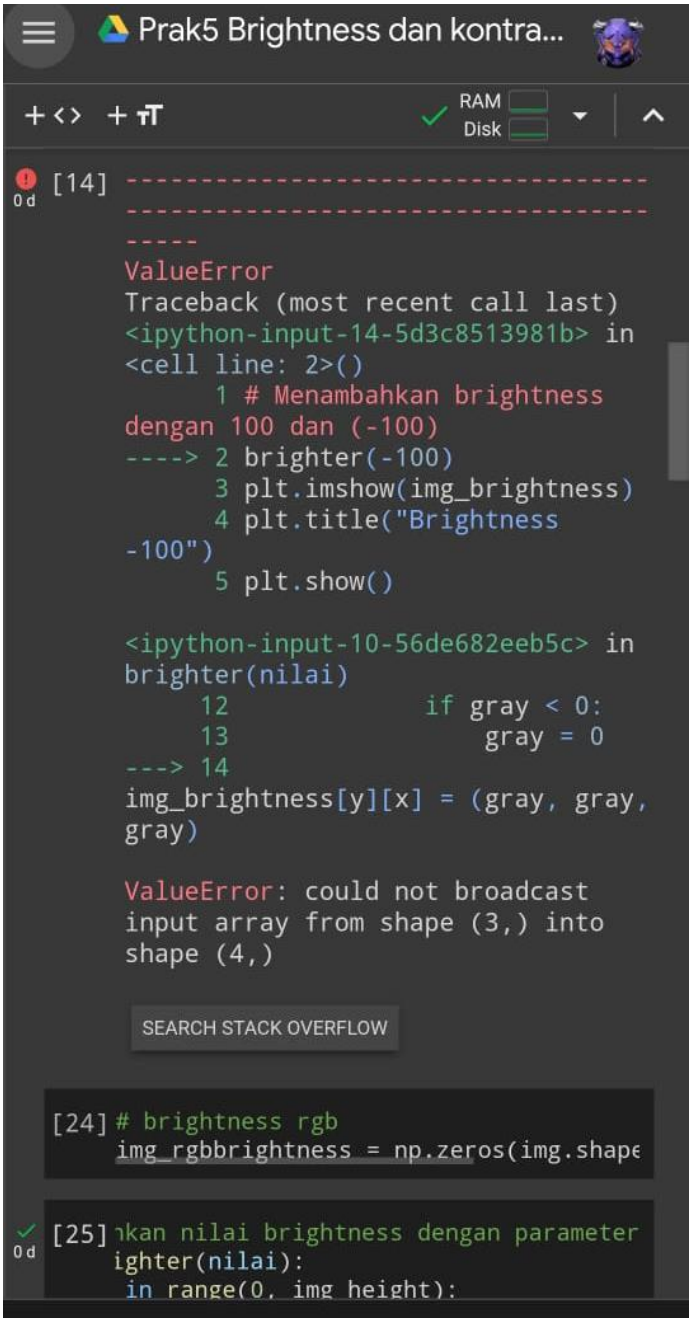
```
---------------------------------------------------------------------------
ValueError                                Traceback (most recent call last)
<ipython-input-23-e349c719b7f2> in <cell line: 3>()
      1 copyTical = ticalCropped.copy().astype(float)
      2
----> 3 m1,n1= copyTical.shape
      4 output1 = np.empty([m1, n1])
      5

ValueError: too many values to unpack (expected 2)
```

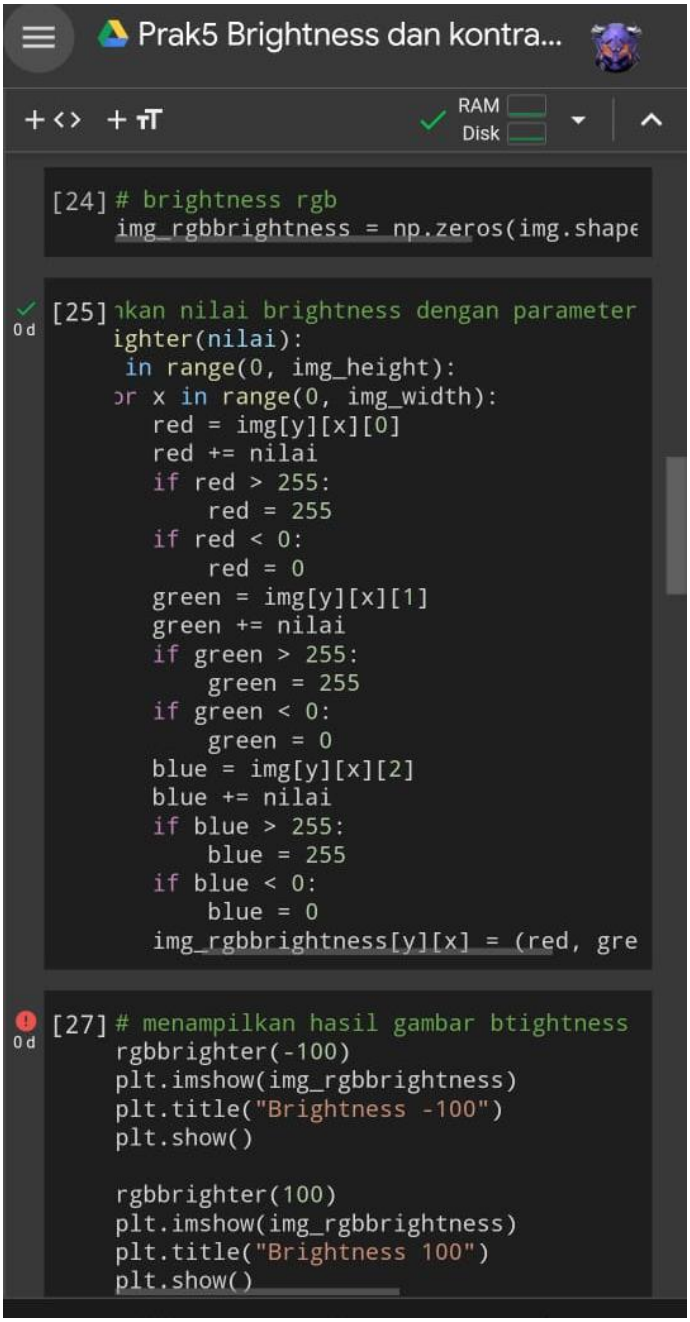
SEARCH STACK OVERFLOW

Brightness & Contrass






Prak5 Brightness dan kontra...
RAM
Disk
[14]
ValueError
Traceback (most recent call last)
<ipython-input-14-5d3c8513981b> in <cell line: 2>()
1 # Menambahkan brightness dengan 100 dan (-100)
----> 2 brighter(-100)
3 plt.imshow(img_brightness)
4 plt.title("Brightness -100")
5 plt.show()
<ipython-input-10-56de682eeb5c> in brighter(nilai)
12 if gray < 0:
13 gray = 0
---> 14 img_brightness[y][x] = (gray, gray, gray)
ValueError: could not broadcast input array from shape (3,) into shape (4,)
SEARCH STACK OVERFLOW
[24] # brightness rgb
img_rgbbrightness = np.zeros(img.shape
[25] ıkan nilai brightness dengan parameter
ighter(nilai):
in range(0, img_height):


Prak5 Brightness dan kontra...
RAM
Disk
[24] # brightness rgb
img_rgbbrightness = np.zeros(img.shape
[25] ıkan nilai brightness dengan parameter
ighter(nilai):
in range(0, img_height):
or x in range(0, img_width):
red = img[y][x][0]
red += nilai
if red > 255:
red = 255
if red < 0:
red = 0
green = img[y][x][1]
green += nilai
if green > 255:
green = 255
if green < 0:
green = 0
blue = img[y][x][2]
blue += nilai
if blue > 255:
blue = 255
if blue < 0:
blue = 0
img_rgbbrightness[y][x] = (red, gre
[27] # menampilkan hasil gambar btightness
rgbbrighter(-100)
plt.imshow(img_rgbbrightness)
plt.title("Brightness -100")
plt.show()
rgbbrighter(100)
plt.imshow(img_rgbbrightness)
plt.title("Brightness 100")
plt.show()

Prak5 Brightness dan kontra...

RAM Disk

```
[27] # menampilkan hasil gambar btightness
     rgbbrighter(-100)
     plt.imshow(img_rgbbrightness)
     plt.title("Brightness -100")
     plt.show()

     rgbbrighter(100)
     plt.imshow(img_rgbbrightness)
     plt.title("Brightness 100")
     plt.show()
```

```
---------------------------------
---------------------------------
-----
ValueError
Traceback (most recent call last)
<ipython-input-27-2ebe822f1c9d> in
<cell line: 2>()
      1 # menampilkan hasil gambar
btightness rgb dengan nilai (-100)
dan 100
----> 2 rgbbrighter(-100)
      3
plt.imshow(img_rgbbrightness)
      4 plt.title("Brightness
-100")
      5 plt.show()

<ipython-input-25-9e2d26c918b2> in
rgbbrighter(nilai)
     21             if blue < 0:
     22                 blue = 0
---> 23
img_rgbbrightness[y][x] = (red,
green, blue)

ValueError: could not broadcast
```

Prak5 Brightness dan kontra...

RAM Disk

```
-100")
[27]      5 plt.show()

<ipython-input-25-9e2d26c918b2> in
rgbbrighter(nilai)
     21             if blue < 0:
     22                 blue = 0
---> 23
img_rgbbrightness[y][x] = (red,
green, blue)

ValueError: could not broadcast
input array from shape (3,) into
shape (4,)
```

SEARCH STACK OVERFLOW

Contrass

```
[22] # variable gambar kontras
     img_contrass = np.zeros(img.shape, dty
```

```
[19] # menambah nilai kontras dengan nilai
     def contrass(nilai):
         for y in range(0, img_height):
             for x in range(0, img_width):
                 red = img[y][x][0]
                 green = img[y][x][1]
                 blue = img[y][x][2]
                 gray = (int(red) + int(gre
                 gray *= nilai
                 if gray > 255:
                     gray = 255
                 img_contrass[y][x] = (gray
```

Prak5 Brightness dan kontra...

RAM Disk

```
[19] # menambah nilai kontras dengan nilai
     def contrass(nilai):
         for y in range(0, img_height):
             for x in range(0, img_width):
                 red = img[y][x][0]
                 green = img[y][x][1]
                 blue = img[y][x][2]
                 gray = (int(red) + int(gre
                 gray *= nilai
                 if gray > 255:
                     gray = 255
                 img_contrass[y][x] = (gray
```

```
[23] # menampilkan hasil gambar kontras
     contrass(2)
     plt.imshow(img_contrass)
     plt.title("Contrass 2")
     plt.show()

     contrass(3)
     plt.imshow(img_contrass)
     plt.title("Contrass 3")
     plt.show()
```

```
---------------------------------
---------------------------------
-----
ValueError
Traceback (most recent call last)
<ipython-input-23-610c8fa67dbd> in
<cell line: 2>()
      1 # menampilkan hasil gambar
kontras
----> 2 contrass(2)
      3 plt.imshow(img_contrass)
      4 plt.title("Contrass 2")
      5 plt.show()
```

Prak5 Brightness dan kontra...

RAM Disk

```
[23] ---------------------------------
     ---------------------------------
     -----
     ValueError
     Traceback (most recent call last)
     <ipython-input-23-610c8fa67dbd> in
     <cell line: 2>()
           1 # menampilkan hasil gambar
     kontras
     ----> 2 contrass(2)
           3 plt.imshow(img_contrass)
           4 plt.title("Contrass 2")
           5 plt.show()

     <ipython-input-19-3a2ed530fe25> in
     contrass(nilai)
          10                 if gray > 255:
          11                     gray = 255
     ---> 12                 img_contrass[y]
     [x] = (gray, gray, gray)

     ValueError: could not broadcast
     input array from shape (3,) into
     shape (4,)
```

SEARCH STACK OVERFLOW

Contrass Autolevel

```
[29] # Variable img contrass
     img_autocontrass = np.zeros(img.shape,
```

```
[31] # menambah nilai contrass gambar denga
     def autocontrass():
```

Prak5 Brightness dan kontra...

RAM Disk

Contrass Autolevel

```
[29] # Variable img contrass
     img_autocontrass = np.zeros(img.shape,
```

```
[31] # menambah nilai contrass gambar denga
     def autocontrass():
         xmax = 300
         xmin = 0
         d = 0
         # Mendapatkan nilai d, dimana nila
         # untuk mendapatkan tingkat kontra
         for y in range(0, img_height):
             for x in range(0, img_width):
                 red = img[y][x][0]
                 green = img[y][x][1]
                 blue = img[y][x][2]
                 gray = (int(red) + int(gre
                 if gray < xmax:
                     xmax = gray
                 if gray > xmin:
                     xmin = gray
         d = xmin-xmax
         for y in range(0, img_height):
             for x in range(0, img_width):
                 red = img[y][x][0]
                 green = img[y][x][1]
                 blue = img[y][x][2]
                 gray = (int(red) + int(gre
                 gray = int(float(255/d) *
                 img_autocontrass[y][x] = (
```

```
# menampilkan hasil contrass otomatis
autocontrass()
plt.imshow(img_autocontrass)
plt.title("Contrass Autolevel")
```

Prak5 Brightness dan kontra...

RAM Disk

```
# menampilkan hasil contrass otomatis
autocontrass()
plt.imshow(img_autocontrass)
plt.title("Contrass Autolevel")
plt.show()
```

```
---------------------------------------------------------------------------
ValueError                                Traceback (most recent call last)
<ipython-input-33-8d943a46f2fa> in <cell line: 2>()
      1 # menampilkan hasil contrass otomatis
----> 2 autocontrass()
      3 plt.imshow(img_autocontrass)
      4 plt.title("Contrass Autolevel")
      5 plt.show()

<ipython-input-31-cd5894c1d3a3> in autocontrass()
     24                 gray = (int(red) + int(green) + int(blue)) / 3
     25                 gray = int(float(255/d) * (gray-xmax))
---> 26                 img_autocontrass[y][x] = (gray, gray, gray)

ValueError: could not broadcast input array from shape (3,) into
```