

Anggota Kelompok :

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Total pixel = 82944000 pixel

Total value red = **7282388893**

Total value green = **6970645575**

Total value blue = **7303596159**

Source code :

```
import os
```

```
import re
```

```
from PIL import Image
```

```
from os import listdir
```

```
import datetime
```

```
def imageprocess(image_path):
```

```
    img = Image.open(image_path).convert('RGB')
```

```
    width, height = img.size
```

```
    x=0
```

```
    y=0
```

```
    z=0
```

```
    # The RGB values we will "snap" to
```

```
    colors = [255, 223, 191, 159, 127, 95, 63, 31, 0]
```

```
    original_color_count = {}
```

```
    color_count = {}
```

```

# Loop through every pixel in the image and modify it
for w in range(width):
    for h in range(height):
        current_color = img.getpixel((w, h))

        if current_color in original_color_count:
            original_color_count[current_color] += 1
        else:
            original_color_count[current_color] = 1

        r, g, b = current_color
        r_set = False
        g_set = False
        b_set = False

# Loop through our allowed values and find the closest value to snap to
for i in range(len(colors)):
    color_one = colors[i]
    color_two = colors[i + 1]

    if not r_set:
        if color_one >= r >= color_two:
            distance_one = color_one - r
            distance_two = r - color_two
            r = color_one if distance_one <= distance_two else color_two
            r_set = True

    if not g_set:
        if color_one >= g >= color_two:

```

```

    distance_one = color_one - g
    distance_two = g - color_two
    g = color_one if distance_one <= distance_two else color_two
    g_set = True

if not b_set:
    if color_one >= b >= color_two:
        distance_one = color_one - b
        distance_two = b - color_two
        b = color_one if distance_one <= distance_two else color_two
        b_set = True

if all((r_set, g_set, b_set)):
    break

# Set our new pixel back on the image to see the difference
new_rgb = (r, g, b)

x = x+r
y = y+g
z = z+b
img.putpixel((w, h), new_rgb)

if new_rgb in color_count:
    color_count[new_rgb] += 1
else:
    color_count[new_rgb] = 1
print("red : %2d"%(x))
print("green : %2d"%(y))

```

```
print("red : %2d"%(z))
```

```
# Count and sort the colors
```

```
all_colors = color_count.items()
```

```
all_colors = sorted(all_colors, key=lambda tup: tup[1], reverse=True)
```

```
try:
```

```
    # Print out the colors
```

```
    for i in range(5):
```

```
        try:
```

```
            print(all_colors[i])
```

```
        except:
```

```
            print("out of range")
```

```
# Remove black, white and gray
```

```
filtered_colors = [color for color in all_colors if not color[0][0] == color[0][1] == color[0][2]]
```

```
z = 0
```

```
for i in range(10):
```

```
    try:
```

```
        print(filtered_colors[i])
```

```
    except:
```

```
        print("out of range")
```

```
print("")
```

```
original_color_count = len(original_color_count)
```

```
new_color_count = len(color_count)
```

```
color_diff = original_color_count - new_color_count
```

```
print("Hasil Hitung: {}".format(color_diff))
```

```
except Exception as e:
```

```
    print(e)
```

```

print(os.getcwd())

# Open image and get data

def printMS(time):
    secs = time.microseconds / 1000
    return secs

def timeFromInt(msint):
    time = ""
    hour = 1-1
    menit = 1-1
    detik = 1-1
    msmilidetik = 1-1
    if msint>1000:
        detik = msint/1000
        milidetik = msint % 1000
        if detik > 60:
            min = detik / 60
            sec = detik % 60
            if min > 60:
                hour = min / 60
                min = min % 60

    time = str(hour) + "hr, " +str(menit)+"min, "+str(detik)+"sec, "+str(milidetik)+"ms"
    return time

def logging(timeToWrite, number):
    f= open("Logs.txt","a+")
    f.write("\ntotal waktu:\t"+timeToWrite +"\t:\t"+number)

```

```
f.close
```

```
def logging_file(namafile, timetowrite):
```

```
    f= open("Output.txt", "a+")
```

```
    f.write("\nnama file:\t"+namafile +"\twaktu:\t"+timetowrite)
```

```
    f.close
```

```
folder = "gambar"
```

```
totalTime = 0
```

```
startcounter = 0
```

```
counter = 0
```

```
for filename in os.listdir(folder):
```

```
    if (filename.endswith(".jpg") or filename.endswith(".png")):
```

```
        if filename.endswith("_new.png"):
```

```
            print ("skip "+filename)
```

```
            continue
```

```
        if counter < startcounter:
```

```
            counter +=1
```

```
            continue
```

```
        counter += 1
```

```
        path = folder+os.sep+filename
```

```
        startTime = datetime.datetime.now()
```

```
imageprocess(path)

EndTime = datetime.datetime.now()

diffTime = EndTime-startTime


print("waktu untuk "+path+" adalah "+str(printMS(diffTime))+"ms")
totalTime+=printMS(diffTime)


logging(str(totalTime), str(counter))
logging_file(filename, str(printMS(diffTime)))
continue


else:

    continue

try:

    print("\n\ntotal waktu eksekusi adalah = ")+timeFromInt(totalTime)
    print("done")

except:

    print("done")
```

Screenshoot

```
root@node2: /home/wiratampanji6 - Google Chrome
ssh.cloud.google.com/projects/indigo-listener-261505/zones/us-central1-a/instances/node2?authuser=1&hl=in&projectNumber=595609922482

1 1.3% Tasks: 51, 143 shw: 1 running
2 0.7% Load average: 0.00 0.00 0.00
Mem 345M/7.30G Uptime: 1 day, 21:01:42
Swap 0K/0K

PID USER PRI NI VIRT RES SHR S CPU% MEM% TIME+ Command
6170 root 20 0 609M 92084 60812 S 1.3 1.2 42:45.36 /usr/bin/kubelet --bootstrap-kubeconfig=/etc/kubernetes/bootstrap-kubelet.conf --kubernetes/kube
4315 root 20 0 522M 89080 39348 S 0.7 1.2 17:21.44 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
6252 root 20 0 609M 92084 60812 S 0.7 1.2 4:58.35 /usr/bin/kubelet --bootstrap-kubeconfig=/etc/kubernetes/bootstrap-kubelet.conf --kubernetes/kube
25494 root 20 0 24424 4364 3212 S 0.7 0.1 0:00.05 httpd
6267 root 20 0 609M 92084 60812 S 0.7 1.2 4:18.84 /usr/bin/kubelet --bootstrap-kubeconfig=/etc/kubernetes/bootstrap-kubelet.conf --kubernetes/kube
4323 root 20 0 522M 89080 39348 S 0.7 1.2 1:42.26 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
6269 root 20 0 609M 92084 60812 S 0.0 1.2 4:44.59 /usr/bin/kubelet --bootstrap-kubeconfig=/etc/kubernetes/bootstrap-kubelet.conf --kubernetes/kube
6544 root 20 0 1336 4788 3864 S 0.0 0.1 0:05.47 containerd-shim -namespace moby --workdir /var/lib/containerd/io.containerd.runtime.v1.linux/moby/4aeee77869f1fc8
4324 root 20 0 522M 89080 39348 S 0.0 1.2 2:12.61 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
6419 root 20 0 599M 91400 22888 S 0.0 0.5 0:24.79 /usr/bin/containerd
4340 root 20 0 522M 89080 39348 S 0.0 1.2 1:11.86 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
6949 root 20 0 381M 21828 22532 S 0.0 0.4 0:10.63 /opt/bin/flanneld --ip-masq --kube-subnet-mgr
4325 root 20 0 522M 89080 39348 S 0.0 1.2 2:30.50 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
6250 root 20 0 609M 92084 60812 S 0.0 1.2 5:01.52 /usr/bin/kubelet --bootstrap-kubeconfig=/etc/kubernetes/bootstrap-kubelet.conf --kubernetes/kube
1288 root 20 0 220 144 36 S 0.0 0.0 0:03.19 /sbin/lscsidd
4098 root 20 0 589M 39400 22888 S 0.0 0.5 2:37.25 /usr/bin/containerd
4345 root 20 0 522M 89080 39348 S 0.0 1.2 2:33.95 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
6175 root 20 0 609M 92084 60812 S 0.0 1.2 4:53.84 /usr/bin/kubelet --bootstrap-kubeconfig=/etc/kubernetes/bootstrap-kubelet.conf --kubernetes/kube
6177 root 20 0 609M 92084 60812 S 0.0 1.2 3:58.47 /usr/bin/kubelet --bootstrap-kubeconfig=/etc/kubernetes/bootstrap-kubelet.conf --kubernetes/kube
6852 root 20 0 381M 21828 22532 S 0.0 0.4 1:43.98 /opt/bin/flanneld --ip-masq --kube-subnet-mgr
6875 root 20 0 381M 21828 22532 S 0.0 0.4 0:28.39 /opt/bin/flanneld --ip-masq --kube-subnet-mgr
1 root 20 0 3768 8628 3876 S 0.0 0.1 0:04.82 /sbin/init
418 root 20 0 4876 8176 5736 S 0.0 0.1 0:01.03 /lib/systemd/systemd-journald
430 root 20 0 4772 696 1520 S 0.0 0.0 0:00.00 /sbin/init
450 root 20 0 4604 928 3096 S 0.0 0.1 0:01.72 /lib/systemd/systemd-udev
1073 root 20 0 16120 2952 2096 S 0.0 0.0 0:00.10 /sbin/dhclient -1 -v -pf /run/dhclient.ens4.pid -lf /var/lib/dhcp/dhclient.ens4.leases -I -df /var/lib/dhcp/dhcl
1290 root 10 -10 5720 3508 2428 S 0.0 0.0 0:16.78 /sbin/lscsidd
1305 root 20 0 26068 2576 2316 S 0.0 0.0 0:00.20 /usr/sbin/cron -f
1356 root 20 0 266M 8904 5236 S 0.0 0.1 0:02.62 /usr/lib/accounts-service/accounts-daemon
1382 root 20 0 266M 8904 5236 S 0.0 0.1 0:00.00 /usr/lib/accounts-service/accounts-daemon
1393 root 20 0 266M 8904 5236 S 0.0 0.1 0:02.72 /usr/lib/accounts-service/accounts-daemon
1350 root 20 0 4900 804 3396 S 0.0 0.0 0:00.67 /usr/bin/dbus-daemon --system --address=systemd: --no-fork --nopidfile --systemd-activation
1395 daemon 20 0 26044 2232 2032 S 0.0 0.0 0:00.00 /usr/sbin/atd -f
1416 root 20 0 28616 3040 2712 S 0.0 0.0 0:00.37 /lib/systemd/systemd-logind
1481 root 20 0 447M 1116 1388 S 0.0 0.0 0:00.56 /usr/bin/xcfs /var/lib/xcfs/
1482 root 20 0 447M 1116 1388 S 0.0 0.0 0:00.52 /usr/bin/xcfs /var/lib/xcfs/
13478 root 20 0 447M 1116 1388 S 0.0 0.0 0:00.52 /usr/bin/xcfs /var/lib/xcfs/
23595 root 20 0 447M 1116 1388 S 0.0 0.0 0:00.05 /usr/bin/xcfs /var/lib/xcfs/
23604 root 20 0 447M 1116 1388 S 0.0 0.0 0:00.01 /usr/bin/xcfs /var/lib/xcfs/
F1Help F2Setup F3Search F4Filter F5Tree F6Sort F7View F8View F9Exit F10Quit

root@master: /usr/bin/Python-2.7.16 - Google Chrome
ssh.cloud.google.com/projects/indigo-listener-261505/zones/us-central1-a/instances/master?authuser=1&hl=in&projectNumber=595609922482
((127, 223, 255), 103268)

Basil Hitung: 1065523
waktu untuk gambar/6.png adalah = 813.217ms
red : 1141626305
green : 1003697746
blue : 823356539
((127, 95, 63), 732877)
((127, 127, 95), 467480)
((95, 63, 31), 451182)
((255, 255, 255), 320908)
((255, 255, 223), 317322)
((127, 95, 63), 732877)
((127, 127, 95), 467480)
((95, 63, 31), 451182)
((255, 255, 223), 317322)
((127, 95, 95), 315935)
((159, 159, 127), 31792)
((95, 95, 63), 291234)
((63, 31, 0), 288458)
((191, 191, 159), 276580)
((159, 127, 127), 270931)

Basil Hitung: 96570
waktu untuk gambar/3.png adalah = 538.743ms
red : 1191296468
green : 1046028964
blue : 1331618725
((159, 191, 223), 581849)
((255, 255, 255), 467292)
((191, 223, 255), 351875)
((31, 0, 63), 268049)
((191, 223, 223), 188623)
((159, 191, 223), 581849)
((191, 223, 255), 351875)
((31, 0, 63), 268049)
((191, 223, 223), 188623)
((255, 223, 255), 186082)
((127, 159, 191), 175971)
((31, 0, 95), 157080)
((63, 31, 127), 153990)
((63, 0, 95), 150712)
((63, 31, 95), 138060)

Basil Hitung: 741075
waktu untuk gambar/5.png adalah = 580.834ms
```


root@node1: /home/wiratamapjib - Google Chrome

ssh.cloud.google.com/projects/indigo-listener-261505/zones/us-central1-a/instances/node1?authuser=1&hl=in&projectNumber=595609922482

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[

</

```
root@master:/usr/bin/Python-2.7.16 - Google Chrome
ssh.cloud.google.com/projects/indigo-listener-261505/zones/us-central1-a/instances/master?authuser=1&hl=in&projectNumber=595609922482
root@master:/usr/bin/Python-2.7.16# nano josgandos_1.py
root@master:/usr/bin/Python-2.7.16# nano josgandos_1.py
root@master:/usr/bin/Python-2.7.16# python josgandos_1.py
/usr/bin/Python-2.7.16
Total red : 1046536742
Total green : 907133991
Total blue : 722842743
((159, 127, 95), 538410)
((0, 0, 0), 508527)
((31, 0, 0), 492196)
((191, 159, 127), 475863)
((63, 31, 31), 458905)
((159, 127, 95), 538410)
((31, 0, 0), 492196)
((191, 159, 127), 475863)
((63, 31, 31), 458905)
((31, 31, 0), 419019)
((63, 63, 31), 401023)
((127, 95, 63), 368661)
((255, 255, 223), 315014)
((95, 95, 63), 311046)
((191, 159, 95), 289783)

Basil Hitung: 133153
waktu untuk gambar/7.png adalah = 589.123ms
Total red : 1021478916
Total green : 728444237
Total blue : 1036935109
((0, 0, 0), 505889)
((0, 0, 31), 280328)
((63, 0, 0), 183036)
((63, 191, 255), 156077)
((95, 0, 0), 142059)
((0, 0, 31), 280328)
((63, 0, 0), 183036)
((63, 191, 255), 156077)
((95, 0, 0), 142059)
((127, 0, 0), 118525)
((0, 0, 63), 117921)
((31, 0, 0), 110187)
((159, 0, 0), 106928)
((31, 159, 223), 106069)
((127, 223, 255), 103268)

Basil Hitung: 1065523
waktu untuk gambar/6.png adalah = 792.602ms

root@node1:/home/wiratamapjib - Google Chrome
ssh.cloud.google.com/projects/indigo-listener-261505/zones/us-central1-a/instances/node1?authuser=1&hl=in&projectNumber=595609922482

1  [ 0.0%] Tasks: 51, 142 thr: 1 running
2  [ 2.0%] Load average: 0.02 0.01 0.00
Mem [ 365M/7.300] Uptime: 1 day, 21:01:28
Swap [ 0K/0K]

PID USER      PRI  NI  VIRT   RES   SHR  S  CPU% MEM%   TIME+  Command
6144 root        20    0   507M  91552 41000  S   0.7  1.2 19:20.07 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
4241 root        20    0   507M  91552 41000  S   0.7  1.2 19:20.07 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
2414 root        20    0   507M  91552 41000  S   0.7  1.2 19:20.07 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
3330 root        20    0   507M  91552 41000  S   0.7  1.2 19:20.07 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
6153 root        20    0   507M  91552 41000  S   0.7  1.2 19:20.07 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
4023 root        20    0   507M  91552 41000  S   0.7  1.2 19:20.07 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
5399 root        20    0   507M  91552 41000  S   0.7  1.2 19:20.07 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
6179 root        20    0   507M  91552 41000  S   0.7  1.2 19:20.07 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
6178 root        20    0   507M  91552 41000  S   0.7  1.2 19:20.07 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
6256 root        20    0   507M  91552 41000  S   0.7  1.2 19:20.07 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
4022 root        20    0   507M  91552 41000  S   0.7  1.2 19:20.07 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
6445 root        20    0   507M  91552 41000  S   0.7  1.2 19:20.07 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
6511 root        20    0   507M  91552 41000  S   0.7  1.2 19:20.07 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
1643 http        20    0   507M  91552 41000  S   0.7  1.2 19:20.07 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
4257 root        20    0   507M  91552 41000  S   0.7  1.2 19:20.07 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
4270 root        20    0   507M  91552 41000  S   0.7  1.2 19:20.07 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
4258 root        20    0   507M  91552 41000  S   0.7  1.2 19:20.07 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
6152 root        20    0   507M  91552 41000  S   0.7  1.2 19:20.07 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
4054 root        20    0   507M  91552 41000  S   0.7  1.2 19:20.07 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
25532 root       20    0   507M  91552 41000  S   0.7  1.2 19:20.07 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
4250 root        20    0   507M  91552 41000  S   0.7  1.2 19:20.07 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
12401 root       20    0   507M  91552 41000  S   0.7  1.2 19:20.07 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
6785 root        20    0   507M  91552 41000  S   0.7  1.2 19:20.07 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
6293 root        20    0   507M  91552 41000  S   0.7  1.2 19:20.07 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
6960 root        20    0   507M  91552 41000  S   0.7  1.2 19:20.07 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
4256 root        20    0   507M  91552 41000  S   0.7  1.2 19:20.07 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
12402 root       20    0   507M  91552 41000  S   0.7  1.2 19:20.07 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
12462 wiratamap 20    0   507M  91552 41000  S   0.7  1.2 19:20.07 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
1 root        20    0   507M  91552 41000  S   0.7  1.2 19:20.07 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
406 root        20    0   507M  91552 41000  S   0.7  1.2 19:20.07 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
427 root        20    0   507M  91552 41000  S   0.7  1.2 19:20.07 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
454 root        20    0   507M  91552 41000  S   0.7  1.2 19:20.07 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
1039 root        20    0   507M  91552 41000  S   0.7  1.2 19:20.07 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
1262 root        20    0   507M  91552 41000  S   0.7  1.2 19:20.07 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
1264 root        20    0   507M  91552 41000  S   0.7  1.2 19:20.07 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
1295 messagebus 20    0   507M  91552 41000  S   0.7  1.2 19:20.07 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
1327 root        20    0   507M  91552 41000  S   0.7  1.2 19:20.07 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
1402 root        20    0   507M  91552 41000  S   0.7  1.2 19:20.07 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
1403 root        20    0   507M  91552 41000  S   0.7  1.2 19:20.07 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
F1H1G F2Setup F3Search F4Index F5File F6Conn F7Acc F8Nacc F9Gill F10Unit
```