LAPORAN EKSEKUSI IMAGE STITCHING

Disusun Oleh:

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JURUSAN SISTEM KOMPUTER

FAKULTAS ILMU KOMPUTER

UNIVERSITAS SRIWIJAYA

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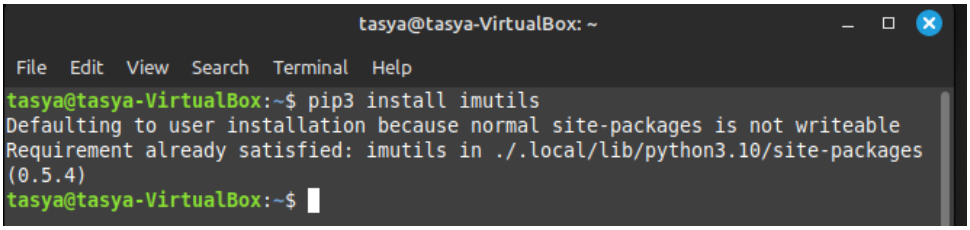
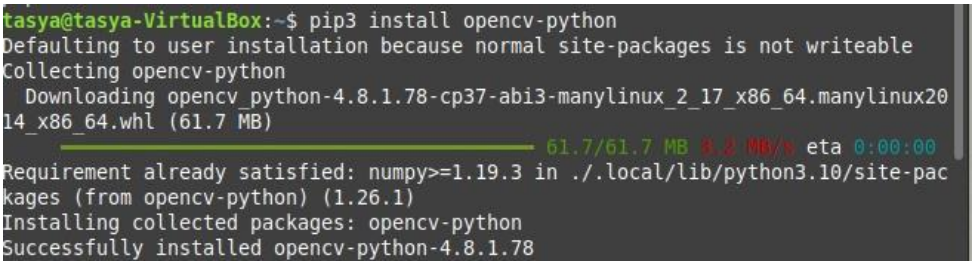
A. INSTALL PACKAGES YANG DIPERLUKAN

Untuk melakukan image stiching perlu menginstall beberapa packages

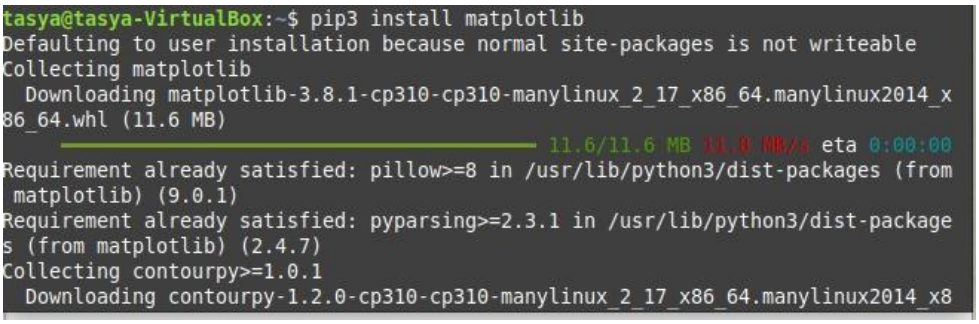
1. Install Imutils
   Install imutils menggunakan perintah sebagai berikut:
   `Pip3 install imutils`



2. Install opencv-python
   Install opencv-python menggunakan perintah sebagai berikut:
   `Pip3 install opencv-python`



3. Install Matplotlib
   Install matplotlib menggunakan perintah sebagai berikut:
   `Pip3 install matplotlib`



```
tasya@tasya-VirtualBox: ~/Downloads/image-stitching-opencv Tugas Besar
File  Edit  View  Search  Terminal  Help
Requirement already satisfied: pillow>=8 in /usr/lib/python3/dist-packages (from
 matplotlib) (9.0.1)
Requirement already satisfied: pyparsing>=2.3.1 in /usr/lib/python3/dist-package
s (from matplotlib) (2.4.7)
Collecting contourpy>=1.0.1
  Downloading contourpy-1.2.0-cp310-cp310-manylinux_2_17_x86_64.manylinux2014_x8
6_64.whl (310 kB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 310.7/310.7 KB 9.8 MB/s eta 0:00:00
Collecting fonttools>=4.22.0
  Downloading fonttools-4.44.0-cp310-cp310-manylinux_2_17_x86_64.manylinux2014_x
86_64.whl (4.5 MB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 4.5/4.5 MB 9.4 MB/s eta 0:00:00
Requirement already satisfied: numpy<2,>=1.21 in ./.local/lib/python3.10/site-pa
ckages (from matplotlib) (1.26.1)
Requirement already satisfied: packaging>=20.0 in /usr/lib/python3/dist-packages
 (from matplotlib) (21.3)
Collecting python-dateutil>=2.7
  Downloading python_dateutil-2.8.2-py2.py3-none-any.whl (247 kB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 247.7/247.7 KB 4.0 MB/s eta 0:00:00
Collecting cycler>=0.10
  Downloading cycler-0.12.1-py3-none-any.whl (8.3 kB)
Collecting kiwisolver>=1.3.1
  Downloading kiwisolver-1.4.5-cp310-cp310-manylinux_2_12_x86_64.manylinux2010_x
86_64.whl (1.6 MB)
```

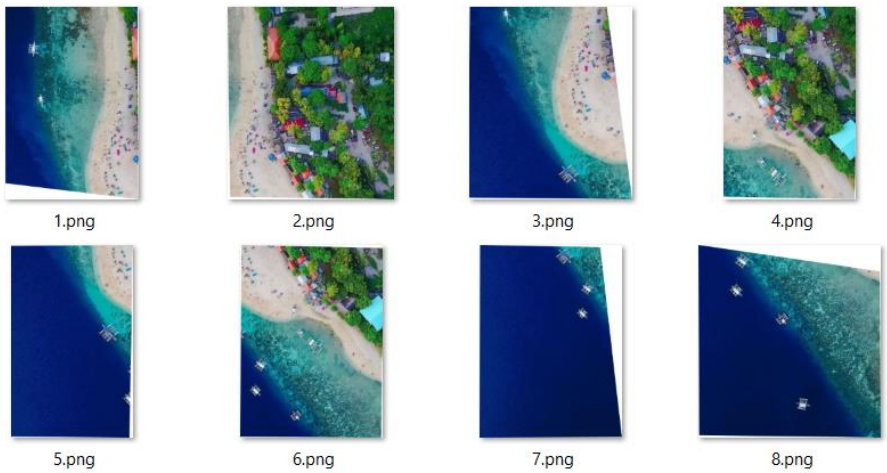
B. EKSEKUSI IMAGE STITCHING

1. Masuk ke dalam direktori yang berisi kodingan image stitching dan terdapat sebuah direktori yang berisi image yang akan digabungkan.

```
tasya@tasya-VirtualBox:~/Downloads/image-stitching-opencv Tugas Besar$ ls -l
total 126256
-rw-r--r-- 1 tasya tasya    646072 Jul  9  2019  belitung.png
drwxr-xr-x 3 tasya tasya      4096 Nov 13 10:22  images
-rw-r--r-- 1 tasya tasya      1552 Dec 14  2018  image_stitching_simple.py
-rw-r--r-- 1 tasya tasya 128619491 Jul  5  2019  output.png
-rw-rw-r-- 1 tasya tasya       166 May 20  2019 'perintah terminal'
tasya@tasya-VirtualBox:~/Downloads/image-stitching-opencv Tugas Besar$
```

Image_stitching_simple.py merupakan program yang akan digunakan untuk mengeksekusi image stitching.

Direktori /images berisi images yang akan digabungkan:



2. Program yang digunakan

```
  GNU nano 6.2                                                                ima
# USAGE
# python image_stitching_simple.py --images images/scottsdale --output output.png

# import the necessary packages
from imutils import paths
import numpy as np
import argparse
import imutils
import cv2

# construct the argument parser and parse the arguments
ap = argparse.ArgumentParser()
ap.add_argument("-i", "--images", type=str, required=True,
        help="path to input directory of images to stitch")
ap.add_argument("-o", "--output", type=str, required=True,
        help="path to the output image")
args = vars(ap.parse_args())

# grab the paths to the input images and initialize our images list
print("[INFO] loading images...")
imagePaths = sorted(list(paths.list_images(args["images"])))
images = []

# loop over the image paths, load each one, and add them to our
# images to stich list
for imagePath in imagePaths:
        image = cv2.imread(imagePath)
        images.append(image)
```

```
# initialize OpenCV's image sticher object and then perform the image
# stitching
print("[INFO] stitching images...")
stitcher = cv2.createStitcher() if imutils.is_cv3() else cv2.Stitcher_create()
(status, stitched) = stitcher.stitch(images)

# if the status is '0', then OpenCV successfully performed image
# stitching
if status == 0:
        # write the output stitched image to disk
        cv2.imwrite(args["output"], stitched)

        # display the output stitched image to our screen
        cv2.imshow("Stitched", stitched)
        cv2.waitKey(0)

# otherwise the stitching failed, likely due to not enough keypoints)
# being detected
else:
        print("[INFO] image stitching failed ({})".format(status))
```

3. Lakukan perintah berikut untuk memngeksekusi

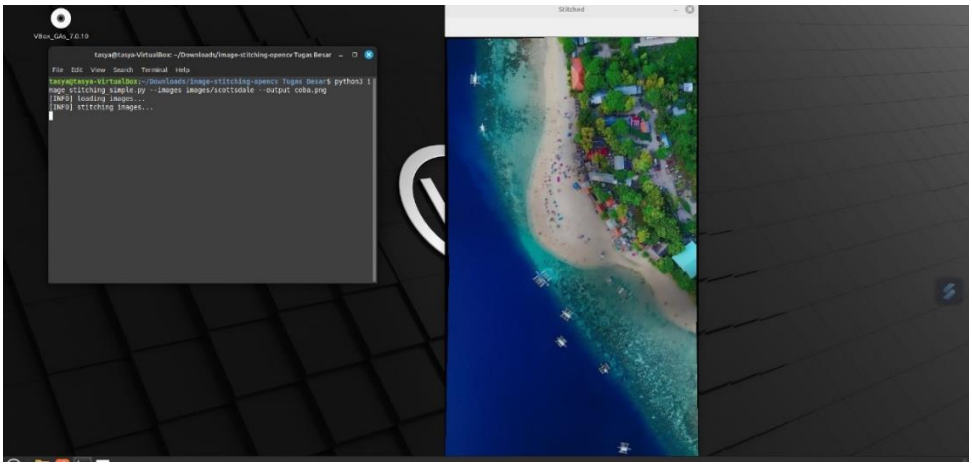
```
Python3 image_stitching_simple.py –image
<direktori_gambar_yang_akan_disatukan> --
output<nama_file_output>
```

Sesuaikan dengan program yang akan dijalankan:

```
Python3 image_stitching_simple.py –images
images/scottslade –output coba.png
```

```
tasya@tasya-VirtualBox: ~/Downloads/image-stitching-opencv Tugas Besar
File  Edit  View  Search  Terminal  Help
tasya@tasya-VirtualBox:~/Downloads/image-stitching-opencv Tugas Besar$ python3 i
mage_stitching_simple.py --images images/scottsdale --output coba.png
[INFO] loading images...
[INFO] stitching images...
```

Output :



Output akan otomatis tersimpan di dalam direktori dengan nama file yang telah ditentukan di dalam perintah eksekusi.

```
tasya@tasya-VirtualBox:~/Downloads/image-stitching-opencv Tugas Besar$ ls -l
total 126892
-rw-r--r-- 1 tasya tasya    646072 Jul  9  2019  belitung.png
-rw-rw-r-- 1 tasya tasya    648538 Nov 16 14:49  coba.png
drwxr-xr-x 3 tasya tasya      4096 Nov 13 10:22  images
-rw-r--r-- 1 tasya tasya      1552 Dec 14  2018  image_stitching_simple.py
-rw-r--r-- 1 tasya tasya 128619491 Jul  5  2019  output.png
-rw-rw-r-- 1 tasya tasya       166 May 20  2019 'perintah terminal'
tasya@tasya-VirtualBox:~/Downloads/image-stitching-opencv Tugas Besar$
```