TUGAS PEMROSESAN PARALEL
EKSEKUSI PROGRAM IMAGE STITCHING

Disusun untuk memenuhi tugas Mata Kuliah Pemrosesan Paralel

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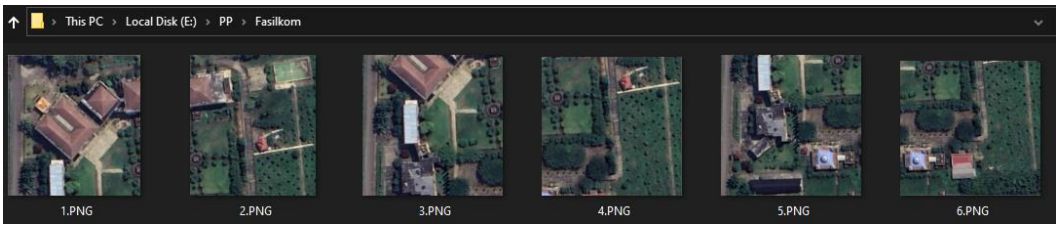
Hal yang perlu dipersiapkan

1. Kumpulan gambar yang akan di stitch



2. Program image stitching

```
from imutils import paths
import numpy as np
import argparse
import imutils
import cv2
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())
print("[INFO] loading images...")
imagePaths = sorted(list(paths.list_images(args["images"])))
images = []
for imagePath in imagePaths:
    image = cv2.imread(imagePath)
    images.append(image)
print("[INFO] stitching images...")
stitcher = cv2.Stitcher_create(cv2.Stitcher_SCANS)
status, stitched = stitcher.stitch(images)
if status != cv2.Stitcher_OK:
     print("[INFO] Camera parameters adjustment failed. Retrying with
manual adjustment...")
    stitcher = cv2.Stitcher_create()
    stitcher.setWaveCorrection(cv2.Stitcher_HOMOGRAPHY)
    status, stitched = stitcher.stitch(images)
print("[INFO] Stitching Status:", status)
if status == cv2.Stitcher_OK:
    cv2.imwrite(args["output"], stitched)
    cv2.imshow("Stitched", stitched)
    cv2.waitKey(0)
else:
    print("[INFO] image stitching failed ({})".format(status))
    if status == cv2.Stitcher_ERR_NEED_MORE_IMGS:
        print("[INFO] Need more images for stitching.")
    elif status == cv2.Stitcher_ERR_HOMOGRAPHY_EST_FAIL:
        print("[INFO] Homography estimation failed.")
    elif status == cv2.Stitcher_ERR_CAMERA_PARAMS_ADJUST_FAIL:
        print("[INFO] Camera parameters adjustment failed.")
    elif status == cv2.Stitcher_ERR_MATCH_CONFIDENCE_FAIL:
        print("[INFO] Match confidence test failed.")
    elif status == cv2.Stitcher_ERR_CAMERA_PARAMS_VERIFY_FAIL:
        print("[INFO] Camera parameters verification failed.")
```

Konfigurasi Python dan Library yang Diperlukan

1. Memastikan bahwa python telah terinstall di Windows

```
C:\Users\Ilham Novriadi>python -V
Python 3.11.1
```

2. Memastikan bahwa pip telah terintsall
(install terlebih dahulu bila belum ada)

```
C:\Users\Ilham Novriadi>pip -V
pip 23.3.1 from C:\Users\Ilham
```

3. Menginstall numpy, imutils, dan cv2. Bila telah terinstall maka output yang keluar akan seperti ini

```
C:\Users\Ilham Novriadi>pip install numpy
Requirement already satisfied: numpy in c:
(1.26.1)
C:\Users\Ilham Novriadi>pip install imutils
Requirement already satisfied: imutils in c:
(0.5.4)
C:\Users\Ilham Novriadi>pip install opencv-python
Requirement already satisfied: opencv-python in c:
(4.8.1.78)
```

Menjalankan Program Image Stitching di Cmd

1. Pertama-tama kita perlu pindah ke direktori file program image stitchingnya

```
C:\Users\Ilham Novriadi>cd /D E:\PP

E:\PP>
```

2. Menjalankan program python image stitchingnya dengan command berikut
(Untuk image gunakan path menuju file image yang akan di stitch)

```
E:\PP>python Image_Stitching.py --images Fasilkom --output output.png
[INFO] loading images...
[INFO] stitching images...
[INFO] Stitching Status: 0
```

3. Bila program berhasil di jalankan maka akan keluar output sebagai berikut dengan hasil stitch bernama “output.png” di folder yang sama dengan programnya