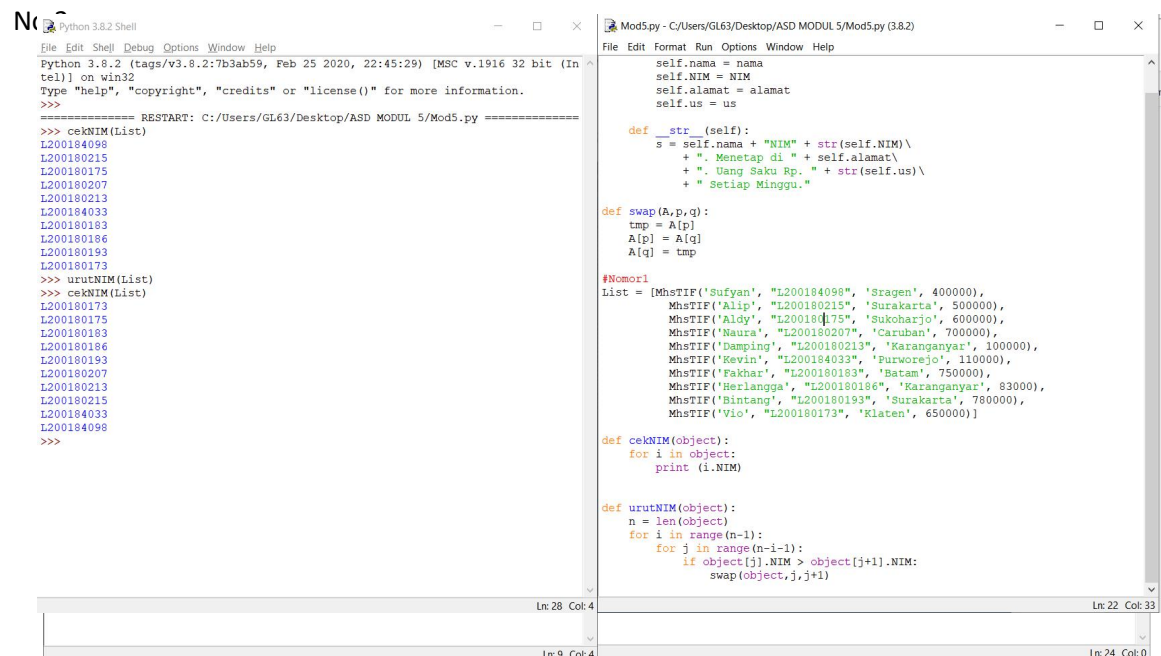


# LAPORAN PRAKTIKUM MODUL 5

## ALGOSTRUKDATA

SUFYAN HABIB ZAINI  
L200184098  
H

No 1



```
Python 3.8.2 Shell
File Edit Shell Debug Options Window Help
Python 3.8.2 (tags/v3.8.2:7b3ab59, Feb 25 2020, 22:45:29) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:/Users/GL63/Desktop/ASD MODUL 5/Mod5.py =====
>>> cekNIM(List)
L200184098
L200180215
L200180175
L200180207
L200180213
L200184033
L200180183
L200180186
L200180193
L200180173
>>> urutNIM(List)
>>> cekNIM(List)
L200180173
L200180175
L200180183
L200180186
L200180193
L200180207
L200180213
L200180215
L200184033
L200184098
>>>
```

```
Mod5.py - C:/Users/GL63/Desktop/ASD MODUL 5/Mod5.py (3.8.2)
File Edit Format Run Options Window Help

self.nama = nama
self.NIM = NIM
self.alamat = alamat
self.us = us

def __str__(self):
    s = self.nama + "NIM" + str(self.NIM)\
        + ". Menetap di " + self.alamat\
        + ". Uang Saku Rp. " + str(self.us)\
        + " Setiap Minggu."

def swap(A,p,q):
    tmp = A[p]
    A[p] = A[q]
    A[q] = tmp

#Nomor1
List = [MhsTIF('Sufyan', "L200184098", 'Sragen', 400000),
        MhsTIF('Alip', "L200180215", 'Surakarta', 500000),
        MhsTIF('Aldy', "L200180175", 'Sukoharjo', 600000),
        MhsTIF('Naura', "L200180207", 'Caruban', 700000),
        MhsTIF('Damping', "L200180213", 'Karanganyar', 100000),
        MhsTIF('Kevin', "L200184033", 'Purworejo', 110000),
        MhsTIF('Fakhar', "L200180183", 'Batam', 750000),
        MhsTIF('Herlangga', "L200180186", 'Karanganyar', 83000),
        MhsTIF('Bintang', "L200180193", 'Surakarta', 780000),
        MhsTIF('Vio', "L200180173", 'Klaten', 650000)]

def cekNIM(object):
    for i in object:
        print (i.NIM)

def urutNIM(object):
    n = len(object)
    for i in range(n-1):
        for j in range(n-i-1):
            if object[j].NIM > object[j+1].NIM:
                swap(object,j,j+1)
```

### No 3

```
Python 3.8.2 Shell
File Edit Shell Debug Options Window Help
Python 3.8.2 (tags/v3.8.2:7b3ab59, Feb 25 2020, 22:45:29) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:/Users/GL63/Desktop/ASD MODUL 5/Mod5.py =====
Bubble : 5.36538 detik
Selection : 2.01086 detik
Insertion : 2.44232 detik
>>>

Mod5.py - C:/Users/GL63/Desktop/ASD MODUL 5/Mod5.py (3.8.2)
File Edit Format Run Options Window Help
    posisiTerkecil = 1
    return posisiTerkecil

def bubbleSort(A):
    n = len(A)
    for i in range(n-1):
        for j in range(n-i-1):
            if A[j] > A[j+1]:
                swap(A,j,j+1)

def selectionSort(A):
    n = len(A)
    for i in range(n-1):
        indexKecil = cariPosisiYangTerkecil(A, i, n)
        if indexKecil != i:
            swap(A, i, indexKecil)

def insertionSort(A):
    n = len(A)
    for i in range(1,n):
        nilai = A[i]
        pos = i
        while pos > 0 and nilai < A[pos-1]:
            A[pos] = A[pos-1]
            pos = pos-1
        A[pos] = nilai

from time import time as detik
from random import shuffle as kocok

k = [i for i in range(1,6001)]
kocok(k)
u_bub = k[:]
u_sel = k[:]
u_ins = k[:]

aw = detik();bubbleSort(u_bub);ak=detak();print("Bubble : %g detik"%(ak-aw));
aw = detik();selectionSort(u_sel);ak=detak();print("Selection : %g detik"%(ak-aw));
aw = detik();insertionSort(u_ins);ak=detak();print("Insertion : %g detik"%(ak-aw));
```