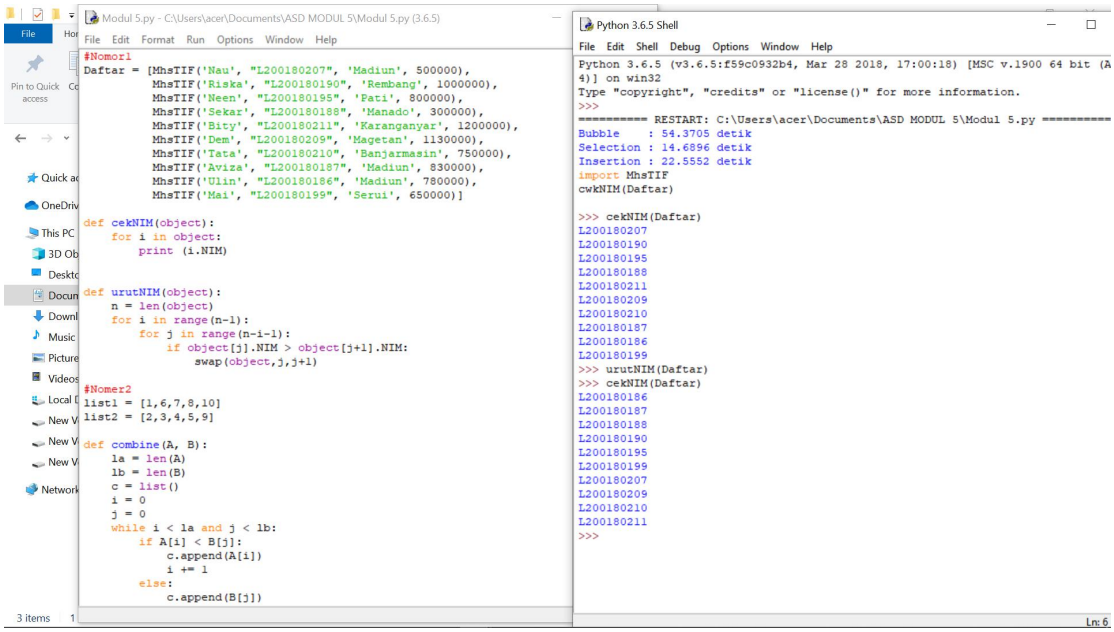
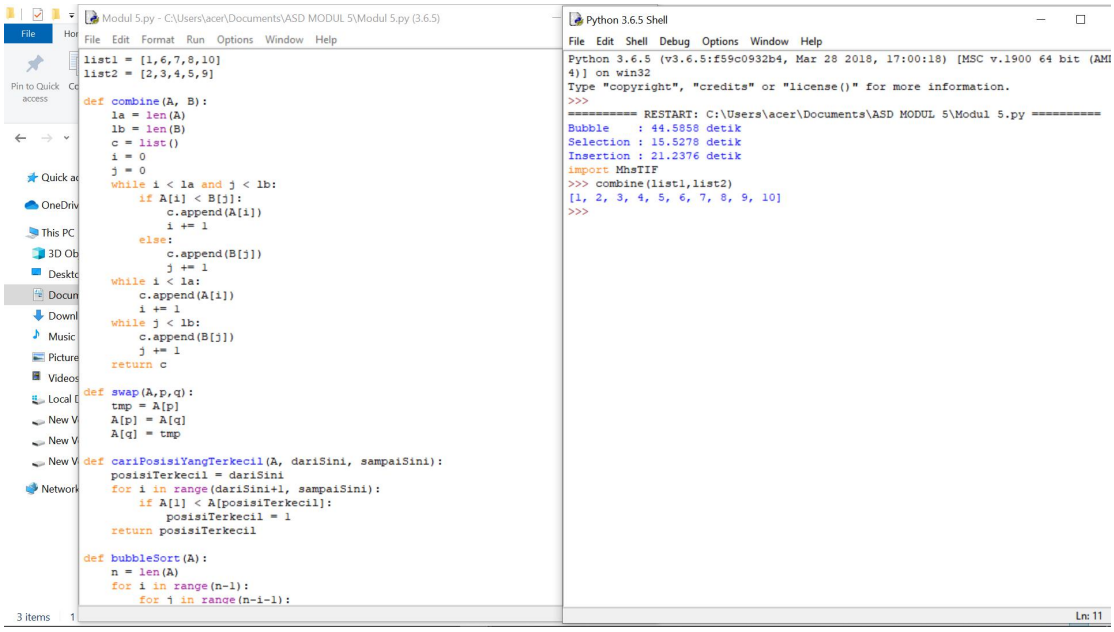
NAURA FIKAMELYALLA
L200180207/H



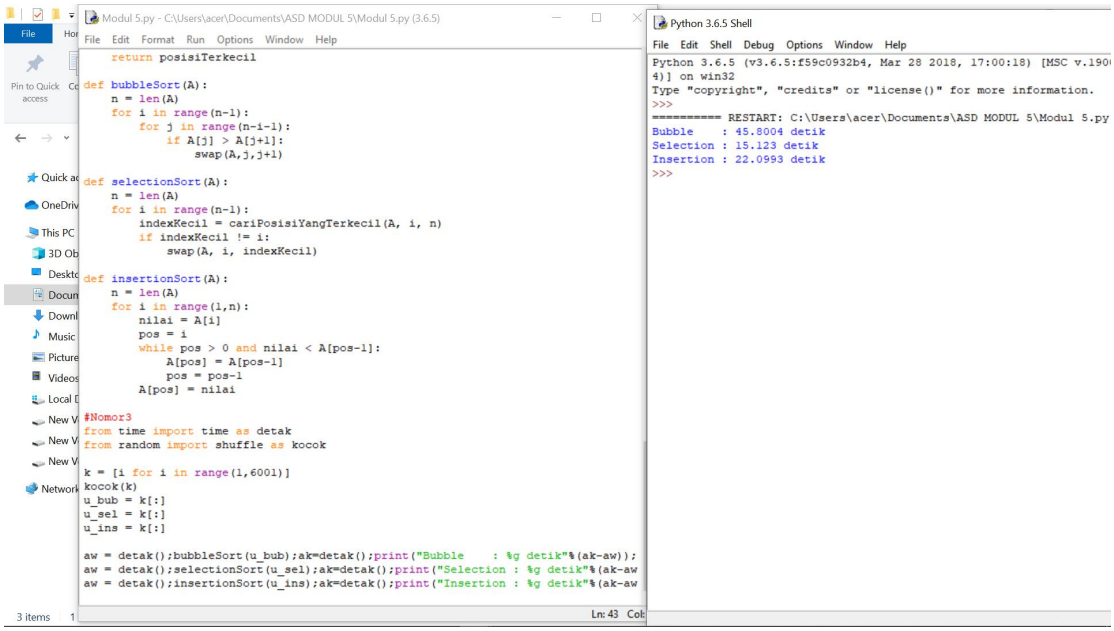
```
#Nomor1
Daftar = [MhsTIF('Nau', "L200180207", 'Madiun', 500000),
          MhsTIF('Riska', "L200180190", 'Rembang', 1000000),
          MhsTIF('Neen', "L200180195", 'Pati', 800000),
          MhsTIF('Sekar', "L200180188", 'Manado', 300000),
          MhsTIF('Bity', "L200180211", 'Karanganyar', 1200000),
          MhsTIF('Dem', "L200180209", 'Magetan', 1130000),
          MhsTIF('Tata', "L200180210", 'Banjarmasin', 750000),
          MhsTIF('Aviza', "L200180187", 'Madiun', 830000),
          MhsTIF('Ulin', "L200180186", 'Madiun', 780000),
          MhsTIF('Mai', "L200180199", 'Serui', 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)

#Nomer2
list1 = [1,6,7,8,10]
list2 = [2,3,4,5,9]

def combine(A, B):
    la = len(A)
    lb = len(B)
    c = list()
    i = 0
    j = 0
    while i < la and j < lb:
        if A[i] < B[j]:
            c.append(A[i])
            i += 1
        else:
            c.append(B[j])
```

```
Python 3.6.5 (v3.6.5:f59c0932b4, Mar 28 2018, 17:00:18) [MSC v.1900 64 bit (A
4)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
========== RESTART: C:\Users\acer\Documents\ASD MODUL 5\Modul 5.py ==========
Bubble    : 54.3705 detik
Selection : 14.6896 detik
Insertion : 22.5552 detik
import MhsTIF
cwkNIM(Daftar)

>>> cekNIM(Daftar)
L200180207
L200180190
L200180195
L200180188
L200180211
L200180209
L200180210
L200180187
L200180186
L200180199
>>> urutNIM(Daftar)
>>> cekNIM(Daftar)
L200180186
L200180187
L200180188
L200180190
L200180195
L200180199
L200180207
L200180209
L200180210
L200180211
>>>
```



```
list1 = [1,6,7,8,10]
list2 = [2,3,4,5,9]

def combine(A, B):
    la = len(A)
    lb = len(B)
    c = list()
    i = 0
    j = 0
    while i < la and j < lb:
        if A[i] < B[j]:
            c.append(A[i])
            i += 1
        else:
            c.append(B[j])
            j += 1
    while i < la:
        c.append(A[i])
        i += 1
    while j < lb:
        c.append(B[j])
        j += 1
    return c

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

def cariPosisiYangTerkecil(A, dariSini, sampaiSini):
    posisiTerkecil = dariSini
    for i in range(dariSini+1, sampaiSini):
        if A[i] < A[posisiTerkecil]:
            posisiTerkecil = i
    return posisiTerkecil

def bubbleSort(A):
    n = len(A)
    for i in range(n-1):
        for j in range(n-i-1):
```

```
Python 3.6.5 (v3.6.5:f59c0932b4, Mar 28 2018, 17:00:18) [MSC v.1900 64 bit (AMI
4)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
========== RESTART: C:\Users\acer\Documents\ASD MODUL 5\Modul 5.py ==========
Bubble    : 44.5858 detik
Selection : 15.5278 detik
Insertion : 21.2376 detik
import MhsTIF
>>> combine(list1,list2)
[1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
>>>
```


Modul 5.py - C:\Users\acer\Documents\ASD MODUL 5\Modul 5.py (3.6.5)
File Edit Format Run Options Window Help
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
#Nomor3
from time import time as detak
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 = detak();bubbleSort(u_bub);ak=detak();print("Bubble : %g detik"%(ak-aw));
aw = detak();selectionSort(u_sel);ak=detak();print("Selection : %g detik"%(ak-aw
aw = detak();insertionSort(u_ins);ak=detak();print("Insertion : %g detik"%(ak-aw
Ln: 43 Col
Python 3.6.5 Shell
File Edit Shell Debug Options Window Help
Python 3.6.5 (v3.6.5:f59c0932b4, Mar 28 2018, 17:00:18) [MSC v.190
4)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
========== RESTART: C:\Users\acer\Documents\ASD MODUL 5\Modul 5.py
Bubble : 45.8004 detik
Selection : 15.123 detik
Insertion : 22.0993 detik
>>>
3 items