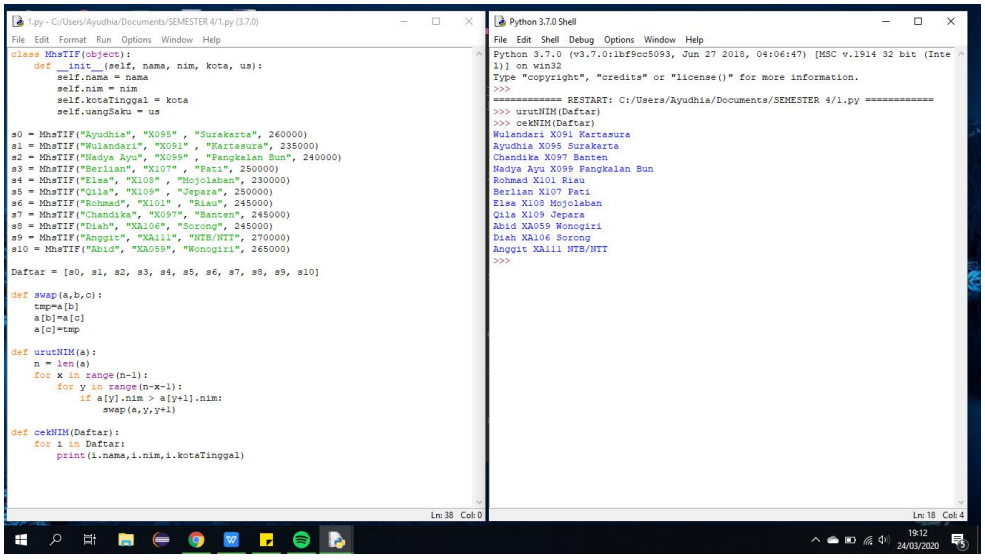
Nama : Ayudhia Isnafiani Fanada
NIM : L200180095
Kelas : D

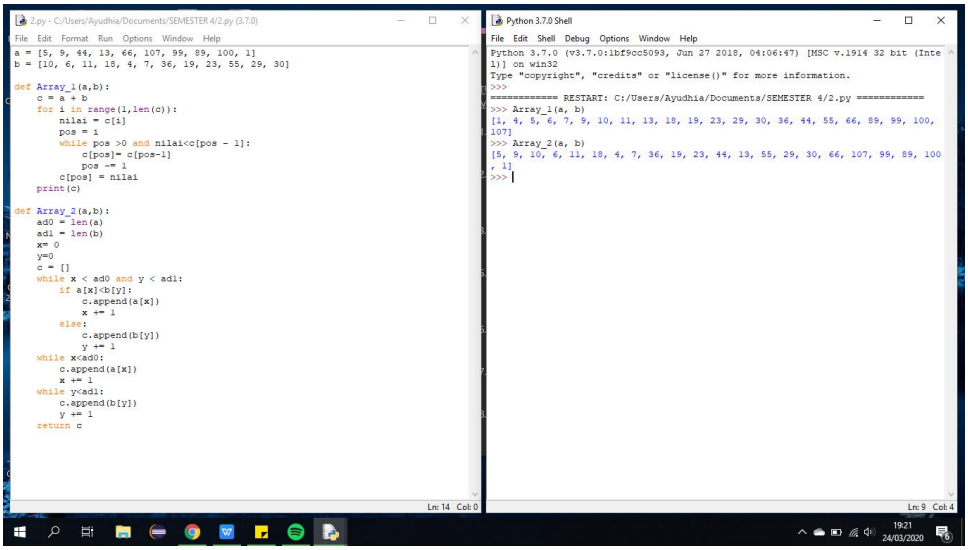
PRAKTIKUM
ALGORITMA DAN STRUKTUR DATA
MODUL 5

5.4 Soal-soal untuk Mahasiswa

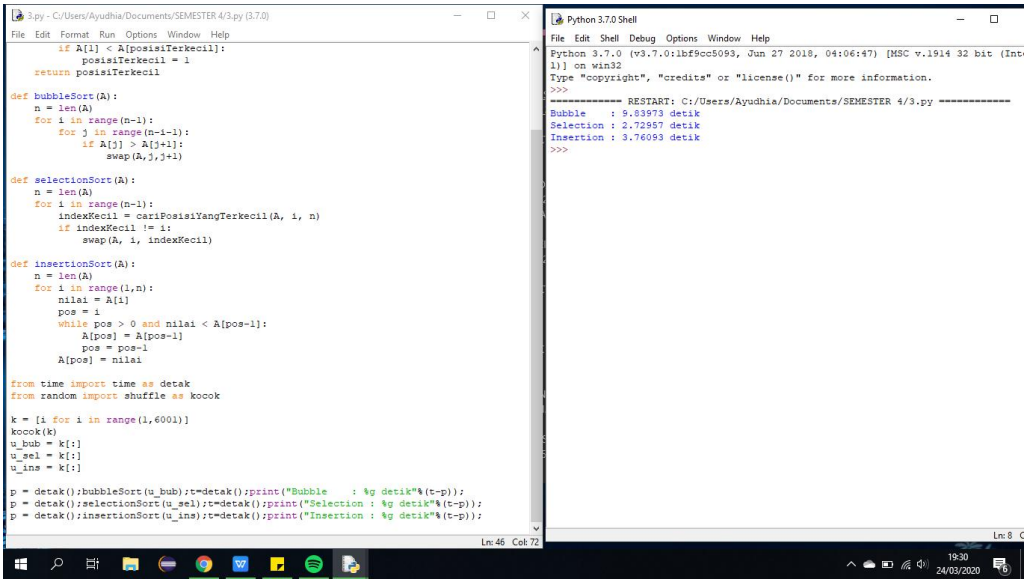
1.



2.



3.



```
3.py - C:/Users/Ayudhia/Documents/SEMESTER 4/3.py (3.7.0)
File  Edit  Format  Run  Options  Window  Help
        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):
            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 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[:]

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

Ln: 46 Col: 72

```
Python 3.7.0 Shell
File  Edit  Shell  Debug  Options  Window  Help
Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2018, 04:06:47) [MSC v.1914 32 bit (Int
1)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
========== RESTART: C:/Users/Ayudhia/Documents/SEMESTER 4/3.py ==========
Bubble    : 9.83973 detik
Selection : 2.72957 detik
Insertion : 3.76093 detik
>>>
```

Ln: 8

19:30
24/03/2020