

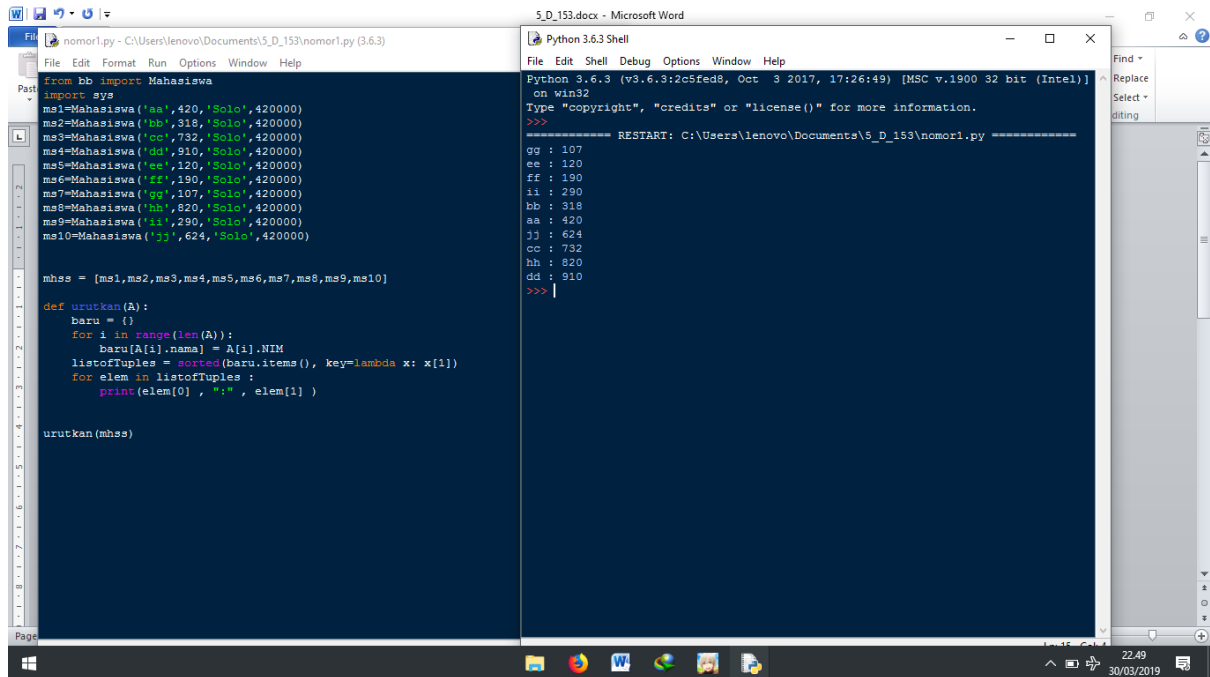
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L200170153

Kelas D

Modul 5

NOMOR 1



```
from bb import Mahasiswa
import sys
ms1=Mahasiswa('aa',420,'Solo',420000)
ms2=Mahasiswa('bb',318,'Solo',420000)
ms3=Mahasiswa('cc',732,'Solo',420000)
ms4=Mahasiswa('dd',910,'Solo',420000)
ms5=Mahasiswa('ee',120,'Solo',420000)
ms6=Mahasiswa('ff',190,'Solo',420000)
ms7=Mahasiswa('gg',107,'Solo',420000)
ms8=Mahasiswa('hh',820,'Solo',420000)
ms9=Mahasiswa('ii',290,'Solo',420000)
ms10=Mahasiswa('jj',624,'Solo',420000)

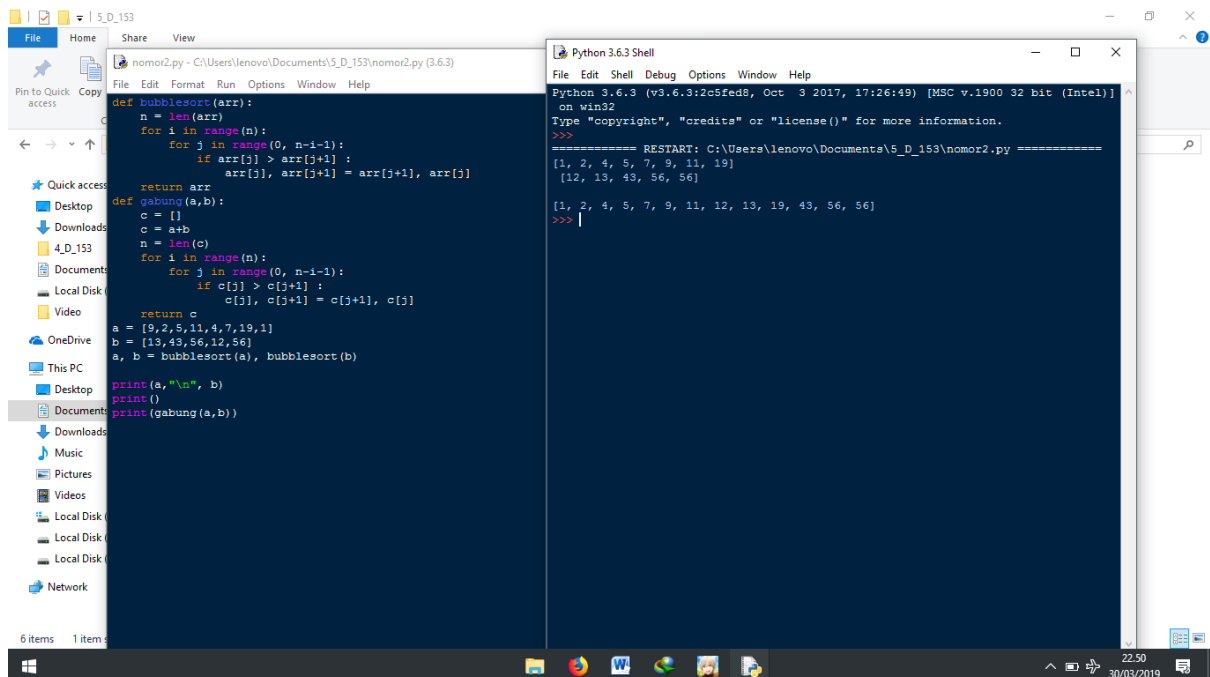
mhss = [ms1,ms2,ms3,ms4,ms5,ms6,ms7,ms8,ms9,ms10]

def urutkan(A):
    baru = {}
    for i in range(len(A)):
        baru[A[i].nama] = A[i].NIM
    listofTuples = sorted(baru.items(), key=lambda x: x[1])
    for elem in listofTuples:
        print(elem[0], ":", elem[1])

    urutkan(mhss)
```

```
Python 3.6.3 Shell
Python 3.6.3 (v3.6.3:2c5fed8, Oct 3 2017, 17:26:49) [MSC v.1900 32 bit (Intel)]
on win32
Type "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Users\lenovo\Documents\5_D_153\nomor1.py =====
gg : 107
ee : 120
ff : 190
ii : 290
bb : 318
aa : 420
jj : 624
cc : 732
hh : 820
dd : 910
>>>
```

NOMOR 2



```
def bubblesort(arr):
    n = len(arr)
    for i in range(n):
        for j in range(0, n-i-1):
            if arr[j] > arr[j+1]:
                arr[j], arr[j+1] = arr[j+1], arr[j]
    return arr

def gabung(a,b):
    c = []
    c = a+b
    n = len(c)
    for i in range(n):
        for j in range(0, n-i-1):
            if c[j] > c[j+1]:
                c[j], c[j+1] = c[j+1], c[j]
    return c

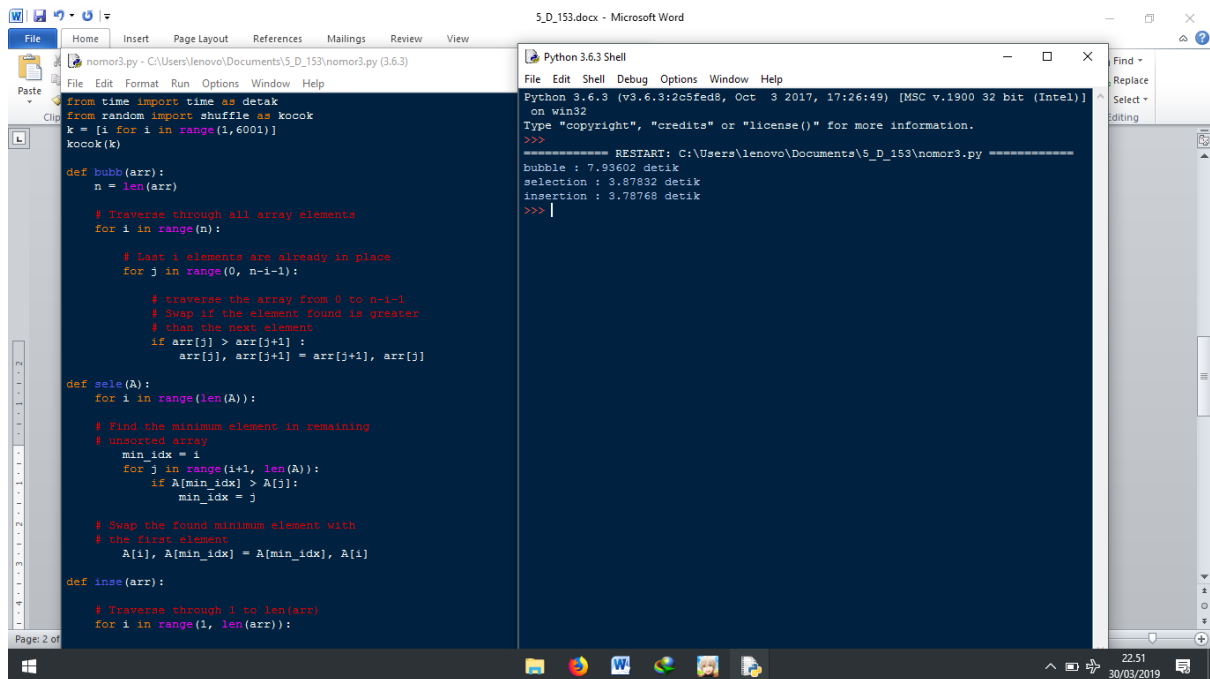
a = [8,2,5,11,4,7,19,1]
b = [13,43,56,12,56]
a, b = bubblesort(a), bubblesort(b)

print(a, "\n", b)
print()
print(gabung(a,b))
```

```
Python 3.6.3 Shell
Python 3.6.3 (v3.6.3:2c5fed8, Oct 3 2017, 17:26:49) [MSC v.1900 32 bit (Intel)]
on win32
Type "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Users\lenovo\Documents\5_D_153\nomor2.py =====
[1, 2, 4, 5, 7, 9, 11, 19]
[12, 13, 43, 56, 56]

[1, 2, 4, 5, 7, 9, 11, 12, 13, 19, 43, 56, 56]
>>>
```

NOMOR 3



The screenshot shows a Windows desktop with two open windows. The background window is a Microsoft Word document titled '5_D_153.docx'. The foreground window is a 'Python 3.6.3 Shell' window. The Word document contains a Python script for a sorting algorithm. The Python shell window shows the execution of the script, displaying timing information for different sorting methods.

Python Script (5_D_153\ncmor3.py):

```
from time import time as detik
from random import shuffle as kocok
k = [i for i in range(1,6001)]
kocok(k)

def bubb(arr):
    n = len(arr)
    # Traverse through all array elements
    for i in range(n):
        # Last i elements are already in place
        for j in range(0, n-i-1):
            # traverse the array from 0 to n-i-1
            # Swap if the element found is greater
            # than the next element
            if arr[j] > arr[j+1]:
                arr[j], arr[j+1] = arr[j+1], arr[j]

def sele(A):
    for i in range(len(A)):
        # Find the minimum element in remaining
        # unsorted array
        min_idx = i
        for j in range(i+1, len(A)):
            if A[min_idx] > A[j]:
                min_idx = j
        # Swap the found minimum element with
        # the first element
        A[i], A[min_idx] = A[min_idx], A[i]

def inse(arr):
    # Traverse through 1 to len(arr)
    for i in range(1, len(arr)):
```

Python Shell Output:

```
Python 3.6.3 (v3.6.3:2c5fed8, Oct 3 2017, 17:26:49) [MSC v.1900 32 bit (Intel)]
on win32
Type "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Users\lenovo\Documents\5_D_153\ncmor3.py =====
bubble : 7.93602 detik
selection : 3.87832 detik
insertion : 3.78768 detik
>>>
```