

# Praktikum Algostruk

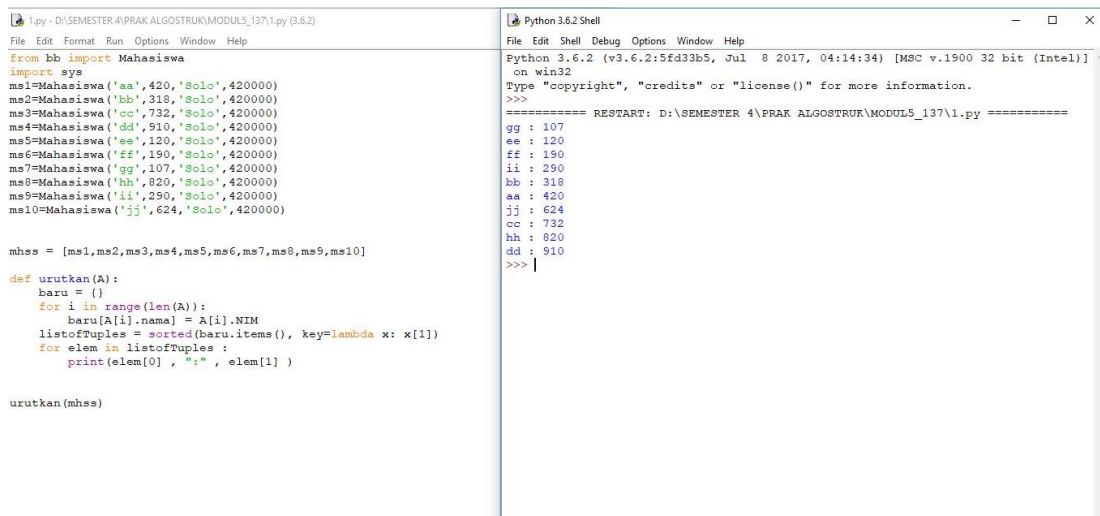
## Modul 5

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Kelas : A

1.



```
1.py - D:\SEMESTER 4\PRAK ALGOSTRUK\MODUL5_137\1.py (3.6.2)
File Edit Format Run Options Window Help
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)

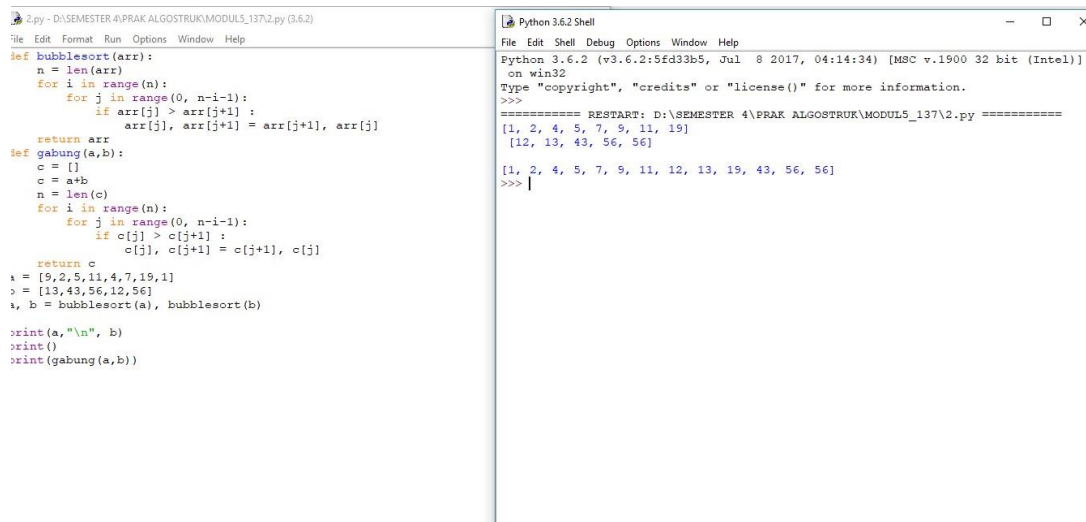
mhss = [ms1,ms2,ms3,ms4,ms5,ms6,ms7,ms8,ms9,ms10]

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 3.6.2 Shell
File Edit Shell Debug Options Window Help
Python 3.6.2 (v3.6.2:5fd33b5, Jul 8 2017, 04:14:34) [MSC v.1900 32 bit (Intel)]
on win32
Type "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: D:\SEMESTER 4\PRAK ALGOSTRUK\MODUL5_137\1.py =====
gg : 107
ee : 120
ff : 190
ii : 290
bb : 318
aa : 420
jj : 624
cc : 732
hh : 820
dd : 910
>>>
```

2.



```
2.py - D:\SEMESTER 4\PRAK ALGOSTRUK\MODUL5_137\2.py (3.6.2)
File Edit Format Run Options Window Help
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 = [9,2,5,11,4,7,19,1]
b = [13,43,56,12,56]
a, b = bubblesort(a), bubblesort(b)

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

```
Python 3.6.2 Shell
File Edit Shell Debug Options Window Help
Python 3.6.2 (v3.6.2:5fd33b5, Jul 8 2017, 04:14:34) [MSC v.1900 32 bit (Intel)]
on win32
Type "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: D:\SEMESTER 4\PRAK ALGOSTRUK\MODUL5_137\2.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]
>>>
```

3.

3.py - D:\SEMESTER 4\PRAK ALGOSTRUK\MODUL5\_137\3.py (3.6.2)

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```
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)):
        key = arr[i]

        # Move elements of arr[0..i-1], that are
        # greater than key, to one position ahead
        # of their current position
        j = i-1
        while j >= 0 and key < arr[j] :
            arr[j+1] = arr[j]
            j -= 1
        arr[j+1] = key

bub = k[:]
sel = k[:]
ins = k[:]

aw=detak();bubb(bub);ak=detak();print('bubble : %g detik' %(ak-aw));
aw=detak();sele(sel);ak=detak();print('selection : %g detik' %(ak-aw));
aw=detak();inse(ins);ak=detak();print('insertion : %g detik' %(ak-aw))
```

Python 3.6.2 Shell

File Edit Shell Debug Options Window Help

```
Python 3.6.2 (v3.6.2:5fd33b5, Jul 8 2017, 04:14:34) [MSC v.1900 32 bit (Intel)]
on win32
Type "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: D:\SEMESTER 4\PRAK ALGOSTRUK\MODUL5_137\3.py =====
bubble : 0.31111 detik
selection : 3.80675 detik
insertion : 3.60802 detik
>>> |
```

Activate Windows  
Go to Settings to activate Windows.