

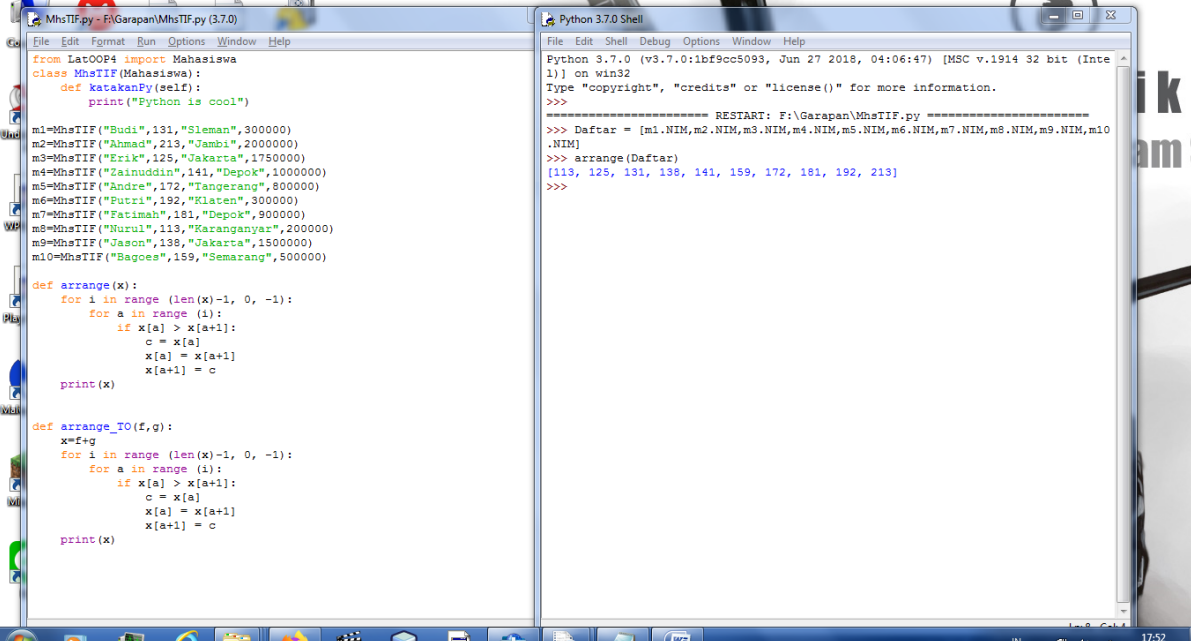
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Kelas : G

Praktikum Algoritma dan Struktur Data

1.



```
from LatOOP4 import Mahasiswa
class MhsTIF(Mahasiswa):
    def katakanPy(self):
        print("Python is cool")

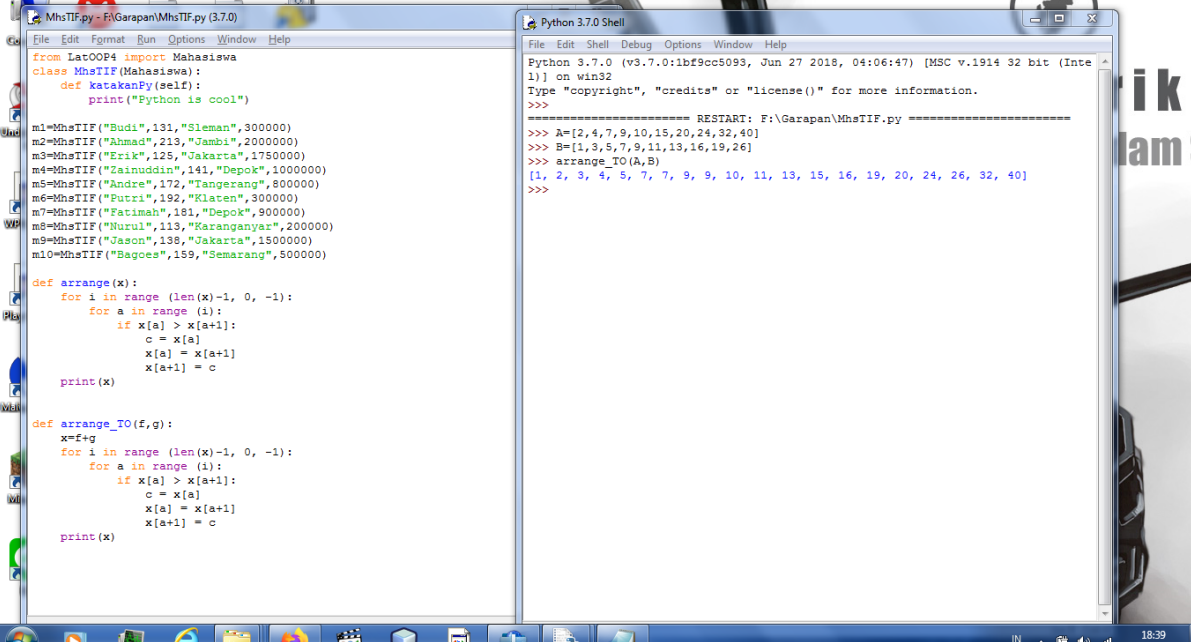
m1=MhsTIF("Budi",131,"Sieman",300000)
m2=MhsTIF("Ahmad",213,"Jambi",2000000)
m3=MhsTIF("Erik",125,"Jakarta",1750000)
m4=MhsTIF("Zainuddin",141,"Depok",1000000)
m5=MhsTIF("Andre",172,"Tangerang",800000)
m6=MhsTIF("Putri",192,"Klaten",300000)
m7=MhsTIF("Fatimah",181,"Depok",900000)
m8=MhsTIF("Nurul",113,"Karanganyar",200000)
m9=MhsTIF("Jason",138,"Jakarta",1500000)
m10=MhsTIF("Bagoes",159,"Semarang",500000)

def arrange(x):
    for i in range (len(x)-1, 0, -1):
        for a in range (i):
            if x[a] > x[a+1]:
                c = x[a]
                x[a] = x[a+1]
                x[a+1] = c
        print(x)

def arrange_TO(f,g):
    x=f+g
    for i in range (len(x)-1, 0, -1):
        for a in range (i):
            if x[a] > x[a+1]:
                c = x[a]
                x[a] = x[a+1]
                x[a+1] = c
        print(x)

Daftar = [m1.NIM,m2.NIM,m3.NIM,m4.NIM,m5.NIM,m6.NIM,m7.NIM,m8.NIM,m9.NIM,m10.NIM]
arrange(Daftar)
[113, 125, 131, 138, 141, 159, 172, 181, 192, 213]
```

2.



```
from LatOOP4 import Mahasiswa
class MhsTIF(Mahasiswa):
    def katakanPy(self):
        print("Python is cool")

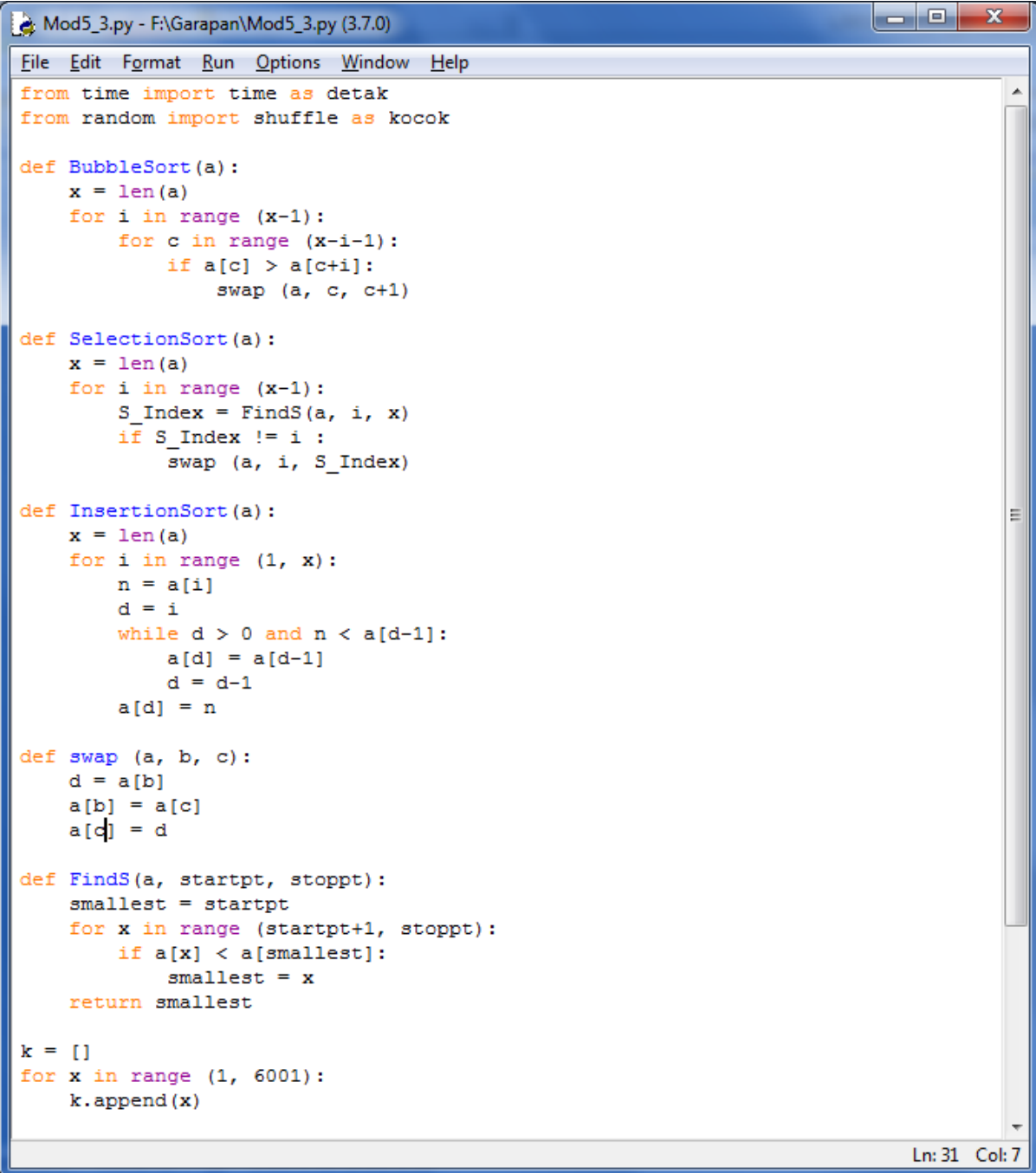
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def arrange(x):
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def arrange_TO(f,g):
    x=f+g
    for i in range (len(x)-1, 0, -1):
        for a in range (i):
            if x[a] > x[a+1]:
                c = x[a]
                x[a] = x[a+1]
                x[a+1] = c
        print(x)

A=[2,4,7,9,10,15,20,24,32,40]
B=[1,3,5,7,9,11,13,16,19,26]
arrange_TO(A,B)
[1, 2, 3, 4, 5, 7, 7, 9, 9, 10, 11, 13, 15, 16, 19, 20, 24, 26, 32, 40]
```

3.



```
Mod5_3.py - F:\Garapan\Mod5_3.py (3.7.0)
File Edit Format Run Options Window Help
from time import time as detik
from random import shuffle as kocok

def BubbleSort(a):
    x = len(a)
    for i in range (x-1):
        for c in range (x-i-1):
            if a[c] > a[c+1]:
                swap (a, c, c+1)

def SelectionSort(a):
    x = len(a)
    for i in range (x-1):
        S_Index = FindS(a, i, x)
        if S_Index != i :
            swap (a, i, S_Index)

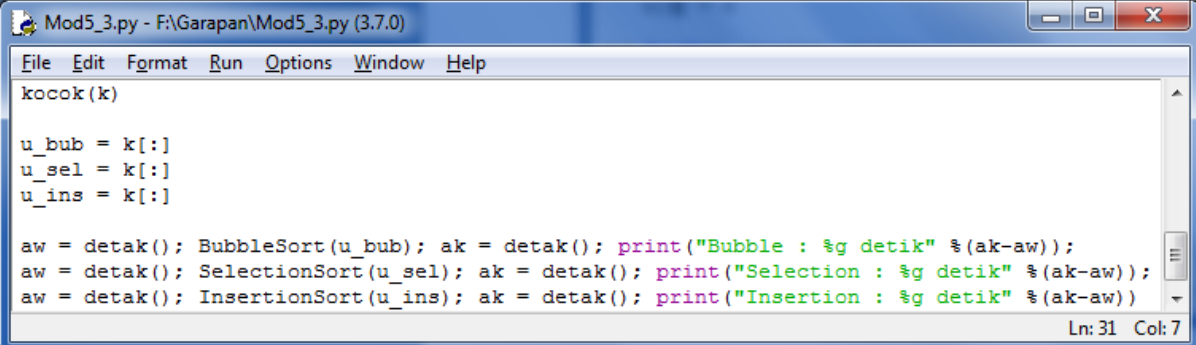
def InsertionSort(a):
    x = len(a)
    for i in range (1, x):
        n = a[i]
        d = i
        while d > 0 and n < a[d-1]:
            a[d] = a[d-1]
            d = d-1
        a[d] = n

def swap (a, b, c):
    d = a[b]
    a[b] = a[c]
    a[c] = d

def FindS(a, startpt, stoppt):
    smallest = startpt
    for x in range (startpt+1, stoppt):
        if a[x] < a[smallest]:
            smallest = x
    return smallest

k = []
for x in range (1, 6001):
    k.append(x)

Ln: 31 Col: 7
```

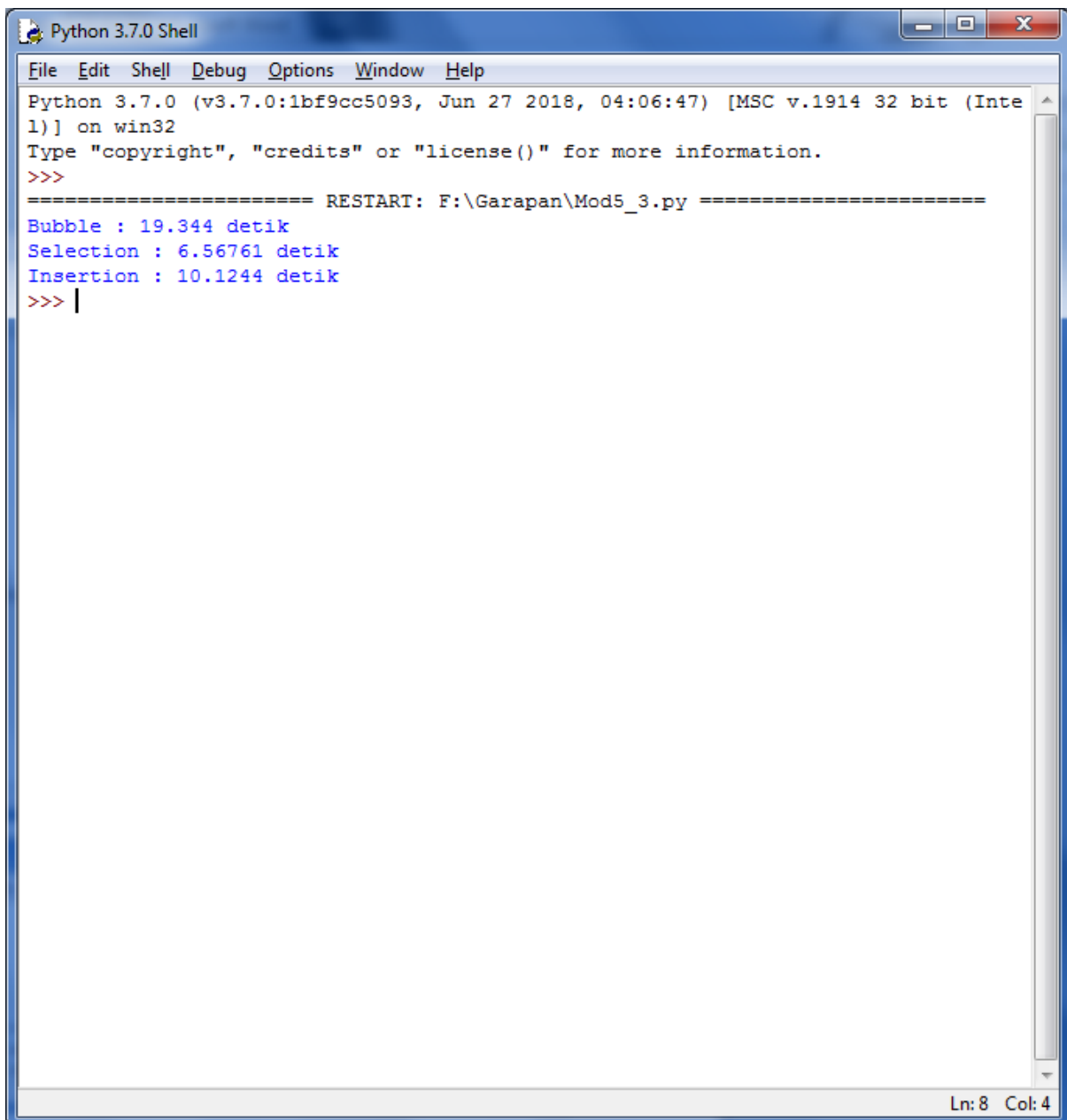


```
Mod5_3.py - F:\Garapan\Mod5_3.py (3.7.0)
File Edit Format Run Options Window Help
kocok(k)

u_bub = k[:]
u_sel = k[:]
u_ins = k[:]

aw = detik(); BubbleSort(u_bub); ak = detik(); print("Bubble : %g detik" %(ak-aw));
aw = detik(); SelectionSort(u_sel); ak = detik(); print("Selection : %g detik" %(ak-aw));
aw = detik(); InsertionSort(u_ins); ak = detik(); print("Insertion : %g detik" %(ak-aw))

Ln: 31 Col: 7
```



A screenshot of a Python 3.7.0 Shell window. The window has a blue title bar with the text "Python 3.7.0 Shell" and standard Windows window controls (minimize, maximize, close). Below the title bar is a menu bar with the following items: File, Edit, Shell, Debug, Options, Window, and Help. The main area of the window contains the following text:

```
Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2018, 04:06:47) [MSC v.1914 32 bit (Intel)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: F:\Garapan\Mod5_3.py =====
Bubble : 19.344 detik
Selection : 6.56761 detik
Insertion : 10.1244 detik
>>> |
```

The text is displayed in a monospaced font. The first line is the Python version and build information. The second line is a prompt for help. The third line is the user's input to restart the program. The fourth line is a separator line. The fifth line shows the execution results for three algorithms: Bubble, Selection, and Insertion. The sixth line is the prompt for the next input, with a vertical bar indicating the cursor position. The status bar at the bottom right of the window shows "Ln: 8 Col: 4".