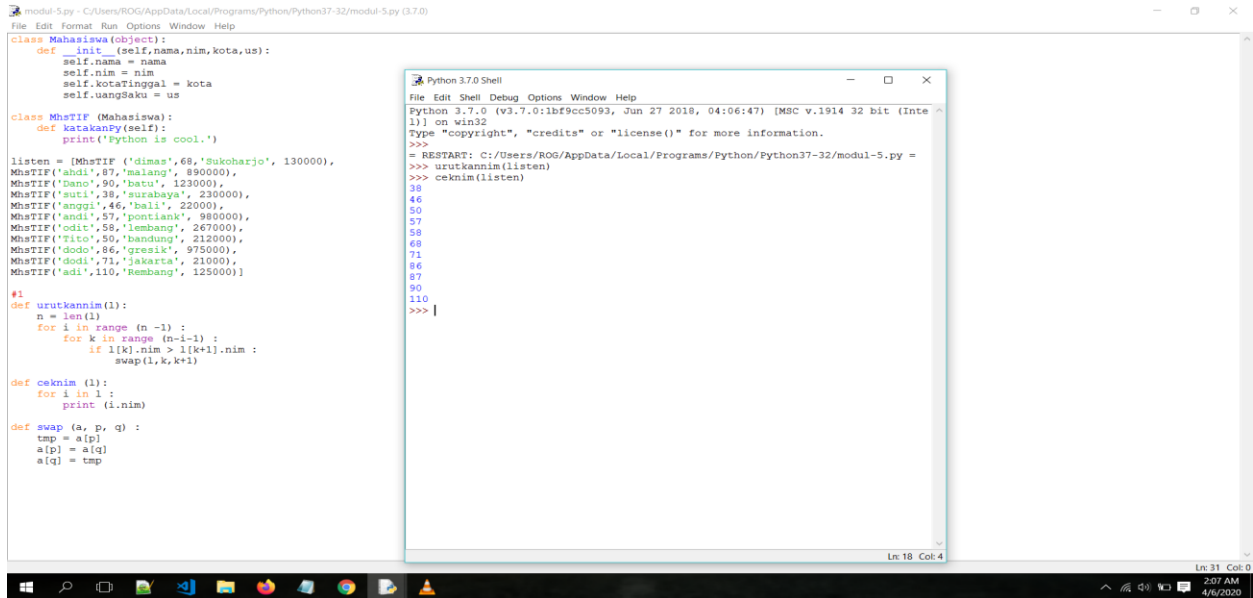


Modul 5

Nama : moch afrizal

Nim :L200180022

1



```
modul-5.py - C:/Users/ROG/AppData/Local/Programs/Python/Python37-32/modul-5.py (3.7.0)
File Edit Format Run Options Window Help

class Mahasiswa(object):
    def __init__(self,nama,nim,kota,us):
        self.nama = nama
        self.nim = nim
        self.kotaTinggal = kota
        self.uangSaku = us

class MhsTIF (Mahasiswa):
    def katakanPy(self):
        print('Python is cool..')

listen = [MhsTIF ('dimas',69,'Sukoharjo', 130000),
MhsTIF ('ahdi',87,'malang', 890000),
MhsTIF ('Dano',90,'batu', 1230000),
MhsTIF ('suti',38,'surabaya', 230000),
MhsTIF ('anggi',46,'bali', 220000),
MhsTIF ('andi',57,'pontiank', 980000),
MhsTIF ('odit',58,'lembang', 267000),
MhsTIF ('tito',50,'bandung', 212000),
MhsTIF ('dodo',86,'gresik', 975000),
MhsTIF ('dodi',71,'jakarta', 21000),
MhsTIF ('adi',110,'Rembang', 125000)]

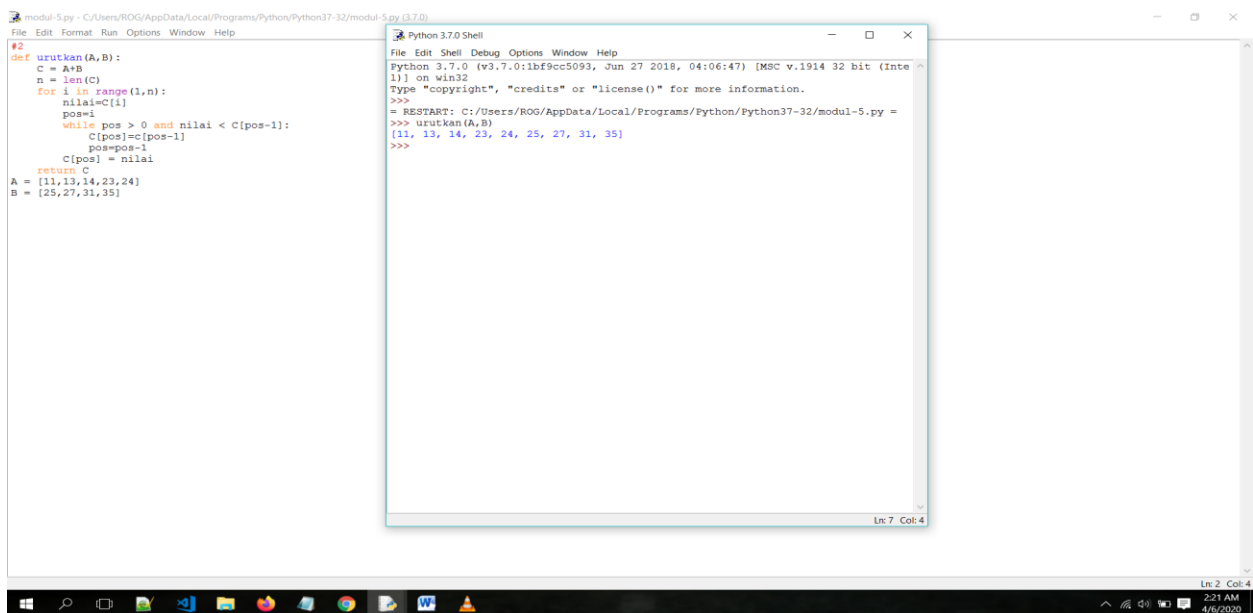
#1
def urutkannim(l):
    n = len(l)
    for i in range (n -1) :
        for k in range (n-1-1) :
            if l[k].nim > l[k+1].nim :
                swap(l,k,k+1)

def ceknim (l):
    for i in l :
        print (i.nim)

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

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 (Intel)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/ROG/AppData/Local/Programs/Python/Python37-32/modul-5.py =
>>> urutkannim(listen)
>>> ceknim(listen)
38
46
50
57
58
68
71
86
87
90
110
>>> |
```

2



```
modul-5.py - C:/Users/ROG/AppData/Local/Programs/Python/Python37-32/modul-5.py (3.7.0)
File Edit Format Run Options Window Help

#2
def urutkan(A,B):
    C = A+B
    n = len(C)
    for i in range(1,n):
        nilai=C[i]
        pos=i
        while pos > 0 and nilai < C[pos-1]:
            C[pos]=C[pos-1]
            pos=pos-1
        C[pos] = nilai
    return C
A = [11,13,14,23,24]
B = [25,27,31,35]

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 (Intel)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/ROG/AppData/Local/Programs/Python/Python37-32/modul-5.py =
>>> urutkan(A,B)
[11, 13, 14, 23, 24, 25, 27, 31, 35]
>>>
```

The image shows a Python script in a text editor and its execution in a Python 3.7.0 Shell window. The script defines several sorting functions and a list of numbers to be sorted.

```

#3
from time import time as detik
from random import shuffle as kocok
def swap(A,p,q):
    tmp = A[p]
    A[p] = A[q]
    A[q] = tmp

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

def cariPosisiYangTerkecil(A,darisini, sampaisini):
    posisiYangTerkecil = darisini
    for i in range (darisini+1, sampaisini):
        if A[i] < A[posisiYangTerkecil]:
            posisiYangTerkecil = i
    return posisiYangTerkecil

k = []
for i in range(1, 6001):
    k.append(i)
kocok(k)
u_bub = k[:]
u_sel = k[:]
u_ins = k[:]

res = detik(bubbleSort(A))
res_bub = detik(bubbleSort(u_bub))
res_sel = detik(selectionSort(u_sel))
res_ins = detik(insertionSort(u_ins))

```

The Python 3.7.0 Shell window shows the execution results:

```

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 (Intel)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/ROG/AppData/Local/Programs/Python/Python37-32/modul-5.py =
bubble: 5.64347 detik
selection: 2.27454 detik
insertion: 2.60146 detik
>>>

```

The taskbar at the bottom shows the system clock as 2:23 AM on 4/6/2020.