

Nama : resky budi nugroho

Nim : l200180018

Kelas : A

Modul 5 tugas

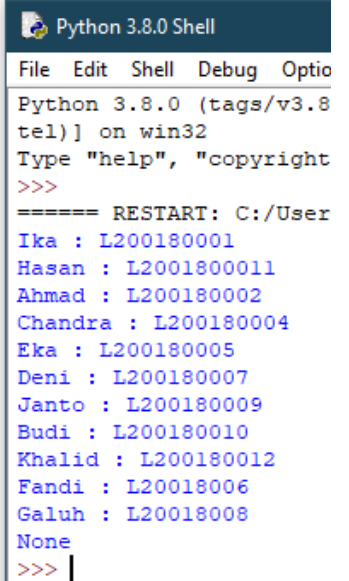
1. Nomor 1

```
#No 1
class MhsTIF(object):

    def __init__(self,nama,NIM,asal,saku):
        self.nama = nama
        self.NIM = NIM
        self.asal = asal
        self.saku = saku

c0 = MhsTIF ('Ika','L200180001','Sukoharjo', 240000)
c1 = MhsTIF ('Budi','L200180010','Sragen', 230000)
c2 = MhsTIF ('Ahmad','L200180002','Surakarta', 250000)
c3 = MhsTIF ('Chandra','L200180004','Surakarta', 230000)
c4 = MhsTIF ('Eka','L200180005','Boyolali', 240000)
c5 = MhsTIF ('Fandi','L200180006','Salatiga', 250000)
c6 = MhsTIF ('Deni','L200180007','Klaten', 245000)
c7 = MhsTIF ('Galuh','L200180008','Wonogiri', 245000)
c8 = MhsTIF ('Janto','L200180009','Klaten', 245000)
c9 = MhsTIF ('Hasan','L2001800011','Karanganyar', 270000)
c10 = MhsTIF ('Khalid','L200180012','Purwodadi', 265000)
Mhs = [c0, c1, c2, c3, c4, c5, c6, c7, c8, c9, c10]

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 elemen in listofTuples:
        print(elemen[0], ":", elemen[1])
    print(urutkan(Mhs))
```



```
Python 3.8.0 Shell
File Edit Shell Debug Optio
Python 3.8.0 (tags/v3.8
tel)] on win32
Type "help", "copyright
>>>
===== RESTART: C:/User
Ika : L200180001
Hasan : L2001800011
Ahmad : L200180002
Chandra : L200180004
Eka : L200180005
Deni : L200180007
Janto : L200180009
Budi : L200180010
Khalid : L200180012
Fandi : L200180006
Galuh : L200180008
None
>>> |
```

2. Nomor 2

```

#No2
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 = [3,5,7,8,9,22,45,66]
b = [44,12,23,45,33,65,77]
a, b = bubbleSort(a), bubbleSort(b)
print(gabung(a,b))

```

```

tel) on win32
Type "help", "copyright", "credits" or "license()" for n
>>>
===== RESTART: C:\Users\ACER\Documents\GitHub\algostru\
[3, 5, 7, 8, 9, 12, 22, 23, 33, 44, 45, 45, 65, 66, 77]
>>>

```

3. Nomor 3

```

#No 3
from time import time as detik
from random import shuffle as kocok
k = [i for i in range(1,6001)]
kocok(k)

def u_bub(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]

def u_sel(A):
    for i in range(len(A)):
        min_in = i
        for j in range(i+1, len(A)):
            if A[min_in] > A[j]:
                min_in = j
        A[i], A[min_in] = A[min_in], A[i]

def u_ins(arr):
    for i in range(1, len(arr)):
        key = arr[i]
        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 = detik(); u_bub(bub); ak = detik(); print('bubble : %g detik' %(ak-aw));
aw1 = detik(); u_sel(sel); ak1 = detik(); print('selection : %g detik' %(ak1-aw1));
aw2 = detik(); u_ins(ins); ak2 = detik(); print('insertion : %g detik' %(ak2-aw2));

```

```

Python 3.8.0 Shell
File Edit Shell Debug Options Window Help
===== RESTART: C:\Users\ACER\Documents\GitHub\algostru\
bubble : 5.70499 detik
selection : 2.72649 detik
insertion : 2.72649 detik
>>>

```