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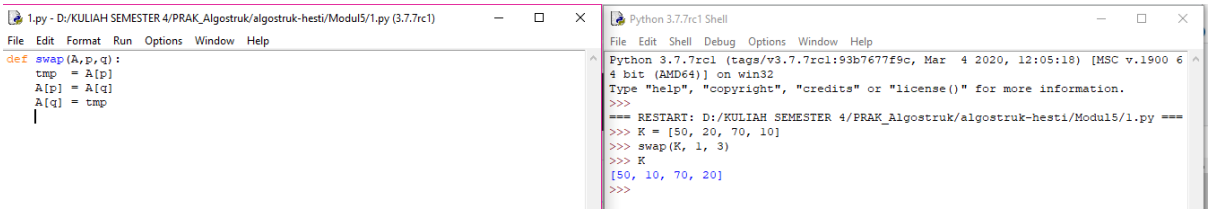
NIM : L200180122

Latihan Modul 5

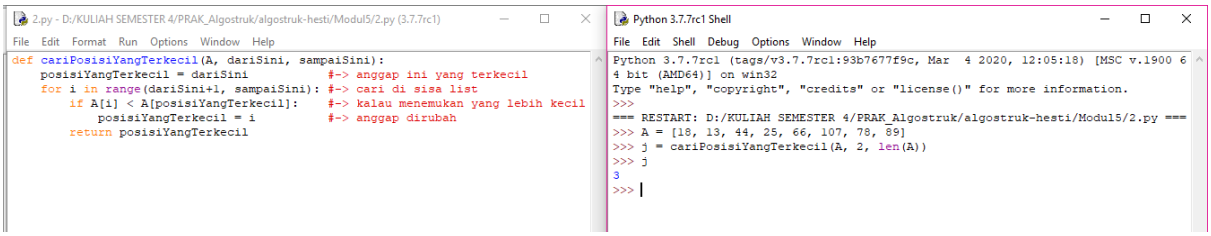
1.



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

```
Python 3.7.7rc1 (tags/v3.7.7rc1:93b7677f9c, Mar  4 2020, 12:05:18) [MSC v.1900 6
4 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
=== RESTART: D:/KULIAH SEMESTER 4/PRAK_Algostruk/algostruk-hesti/Modul5/1.py ===
>>> K = [50, 20, 70, 10]
>>> swap(K, 1, 3)
>>> K
[50, 10, 70, 20]
>>>
```

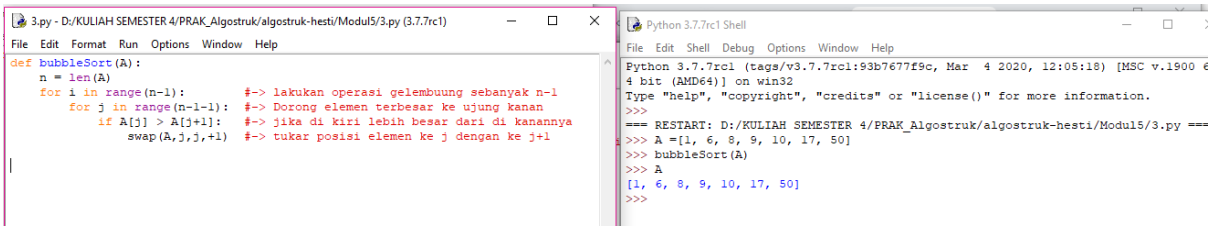
2.



```
def cariPosisiYangTerkecil(A, dariSini, sampaiSini):
    posisiYangTerkecil = dariSini           #-> anggap ini yang terkecil
    for i in range(dariSini+1, sampaiSini): #-> cari di sisa list
        if A[i] < A[posisiYangTerkecil]:    #-> kalau menemukan yang lebih kecil
            posisiYangTerkecil = i          #-> anggap dirubah
        return posisiYangTerkecil
```

```
Python 3.7.7rc1 (tags/v3.7.7rc1:93b7677f9c, Mar  4 2020, 12:05:18) [MSC v.1900 6
4 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
=== RESTART: D:/KULIAH SEMESTER 4/PRAK_Algostruk/algostruk-hesti/Modul5/2.py ===
>>> A = [18, 13, 44, 25, 66, 107, 78, 89]
>>> j = cariPosisiYangTerkecil(A, 2, len(A))
>>> j
3
>>>
```

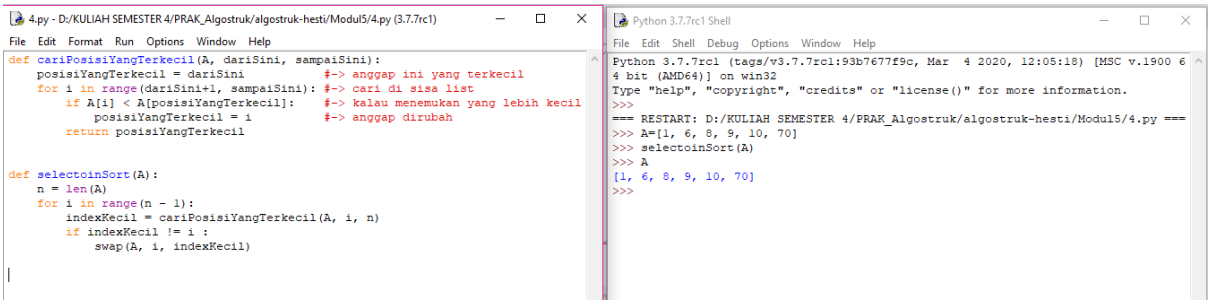
3.



```
def bubbleSort(A):
    n = len(A)
    for i in range(n-1):        #-> lakukan operasi gelembuung sebanyak n-1
        for j in range(n-1-i):  #-> Dorong elemen terbesar ke ujung kanan
            if A[j] > A[j+1]:   #-> jika di kiri lebih besar dari di kanannya
                swap(A,j,j,+1)  #-> tukar posisi elemen ke j dengan ke j+1
```

```
Python 3.7.7rc1 (tags/v3.7.7rc1:93b7677f9c, Mar  4 2020, 12:05:18) [MSC v.1900 6
4 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
=== RESTART: D:/KULIAH SEMESTER 4/PRAK_Algostruk/algostruk-hesti/Modul5/3.py ===
>>> A =[1, 6, 8, 9, 10, 17, 50]
>>> bubbleSort(A)
>>> A
[1, 6, 8, 9, 10, 17, 50]
>>>
```

4.

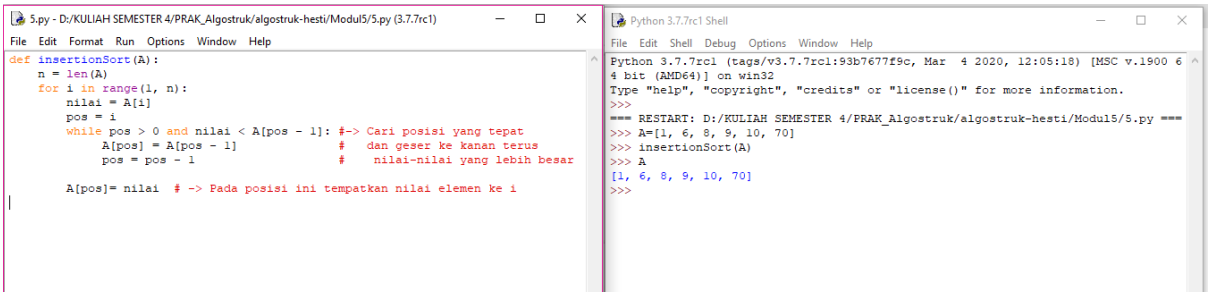


```
def cariPosisiYangTerkecil(A, dariSini, sampaiSini):
    posisiYangTerkecil = dariSini           #-> anggap ini yang terkecil
    for i in range(dariSini+1, sampaiSini): #-> cari di sisa list
        if A[i] < A[posisiYangTerkecil]:    #-> kalau menemukan yang lebih kecil
            posisiYangTerkecil = i          #-> anggap dirubah
        return posisiYangTerkecil


def selectoinSort(A):
    n = len(A)
    for i in range(n - 1):
        indexKecil = cariPosisiYangTerkecil(A, i, n)
        if indexKecil != i :
            swap(A, i, indexKecil)
```

```
Python 3.7.7rc1 (tags/v3.7.7rc1:93b7677f9c, Mar  4 2020, 12:05:18) [MSC v.1900 6
4 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
=== RESTART: D:/KULIAH SEMESTER 4/PRAK_Algostruk/algostruk-hesti/Modul5/4.py ===
>>> A=[1, 6, 8, 9, 10, 70]
>>> selectoinSort(A)
>>> A
[1, 6, 8, 9, 10, 70]
>>>
```

5.


5.py - D:/KULIAH SEMESTER 4/PRAK_Algostruk/algostruk-hesti/Modul5/5.py (3.7.7rc1)
File Edit Format Run Options Window Help
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]: #-> Cari posisi yang tepat
A[pos] = A[pos - 1] # dan geser ke kanan terus
pos = pos - 1 # nilai-nilai yang lebih besar
A[pos]= nilai # -> Pada posisi ini tempatkan nilai elemen ke i
Python 3.7.7rc1 Shell
File Edit Shell Debug Options Window Help
Python 3.7.7rc1 (tags/v3.7.7rc1:93b7677f9c, Mar 4 2020, 12:05:18) [MSC v.1900 6
4 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
=== RESTART: D:/KULIAH SEMESTER 4/PRAK_Algostruk/algostruk-hesti/Modul5/5.py ===
>>> A=[1, 6, 8, 9, 10, 70]
>>> insertionSort(A)
>>> A
[1, 6, 8, 9, 10, 70]
>>>