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A

MODUL 5
LATIHAN

PENGURUTAN

Routine swap

```
>>> K = [50,20,70,10]
>>> swap (K,1,3)
>>> K
[50, 10, 70, 20]
>>> A =[18,13,44,25,66,107,78,89]
>>> j = cariposisiyangterkecil(A,2, len(A))
>>> j
3
>>>
```

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

def cariposisiyangterkecil(A,darisini,sampaisini):
    posisiyangterkecil = darisini #anggap ini yang terkecil
    for i in range (darisini+ 1, sampaisini): #cari disisi list
        if A[i] < A[posisiyangterkecil]: #kalau yang lebih kecil,
            posisiyangterkecil = i #anggapan dirubah
    return posisiyangterkecil
```

Bubble sort

```
from routine_swap import swap
def bubblesort(A):
    n = len(A)
    for i in range(n-1):          #lakukan operasi gelembung sebanyak n -1
        for j in range(n-i-1):    #dorong elemen terbesar ke ujung kanan
            if A[j] >A [j+1]:     #jika dikiri lebih besar dari dikanannya
                swap(A,j,j+1)      #tukar posisi elemen ke j dengan j+1
```

```
Python 3.8.2 (tags/v3.8.2:7b3ab59, Feb 25 2020
it (AMD64)] on win32
Type "help", "copyright", "credits" or "licens
>>>
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rt.py
>>> L=[10,51,2,18,4,31,13,5,23,64,29]
>>> j = bubblesort(L)
>>> print(L)
[2, 4, 5, 10, 13, 18, 23, 29, 31, 51, 64]
>>>
```

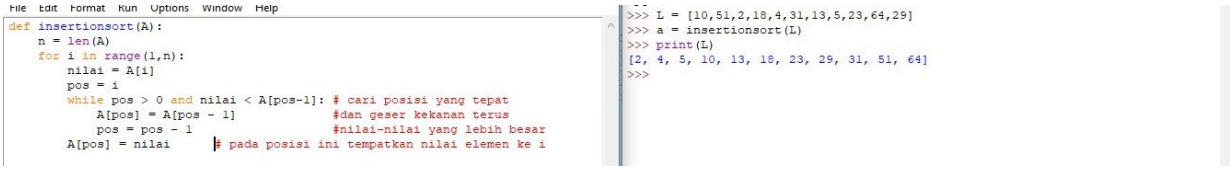
Selection sort

```
from routine_swap import swap,cariposisiyangterkecil
def selectionsort(A):
    n = len(A)
    for i in range(n-1):
        indexkecil = cariposisiyangterkecil(A,i,n)
        if indexkecil != i:
            swap(A,i,indexkecil)
```

```
Python 3.8.2 (tags/v3.8.2:7b3ab59, Feb 25 202
D64)] on win32
Type "help", "copyright", "credits" or "licer
>>>
= RESTART: E:/KULIAH/SEMESTER 4/prak algostru
.py

>>> L = [10,51,2,18,4,31,13,5,23,64,29]
>>> k = selectionsort(L)
>>> print(L)
[2, 4, 5, 10, 13, 18, 23, 29, 31, 51, 64]
>>>
```

Insertion sort



```
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 kekanan terus
            pos = pos - 1                   #nilai-nilai yang lebih besar
        A[pos] = nilai      # pada posisi ini tempatkan nilai elemen ke i
```

```
>>> L = [10,51,2,18,4,31,13,5,23,64,29]
>>> a = insertionsort(L)
>>> print(L)
[2, 4, 5, 10, 13, 18, 23, 29, 31, 51, 64]
>>>
```