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Latihan Modul 5

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

===== RESTART: E:/mod4.py =====
>>> K = [50,20,70,10]
>>> swap(K,1,3)
>>> K
[50, 10, 70, 20]
>>>

def cariPosisiYangTerkecil(A,dariSini,sampaiSini):
    PosisiYangTerkecil = dariSini
    for i in range(dariSini+1,sampaiSini):
        if A[i] < A[PosisiYangTerkecil]:
            PosisiYangTerkecil = i
    return PosisiYangTerkecil
|

===== RESTART: E:/mod4.py =====
>>> A = [18,13,44,25,66,107,78,89]
>>> j = cariPosisiYangTerkecil(A,2,len(A))
>>> j
3
>>>
```

5.1

```
===== RESTART: E:\mod4.py =====
>>> A = [10,51,2,18,4,31,13,5,23,64,29]
>>> A
[10, 51, 2, 18, 4, 31, 13, 5, 23, 64, 29]
>>> K = cariPosisiYangTerkecil(A,2,len(A))
>>> K
2
>>> |
```

```
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)
```

5.2

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

===== RESTART: E:\mod4.py =====
>>> A = [10,51,2,18,4,31,13,5,23,64,29]
>>> selectionSort(A)
>>> A
[2, 4, 5, 10, 13, 18, 23, 29, 31, 51, 64]
>>> |
```

5.3

```
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

===== RESTART: E:\mod4.py =====
>>> A = [10,51,2,18,4,31,13,5,23,64,29]
>>> insertionSort(A)
>>> A
[2, 4, 5, 10, 13, 18, 23, 29, 31, 51, 64]
>>> |
```