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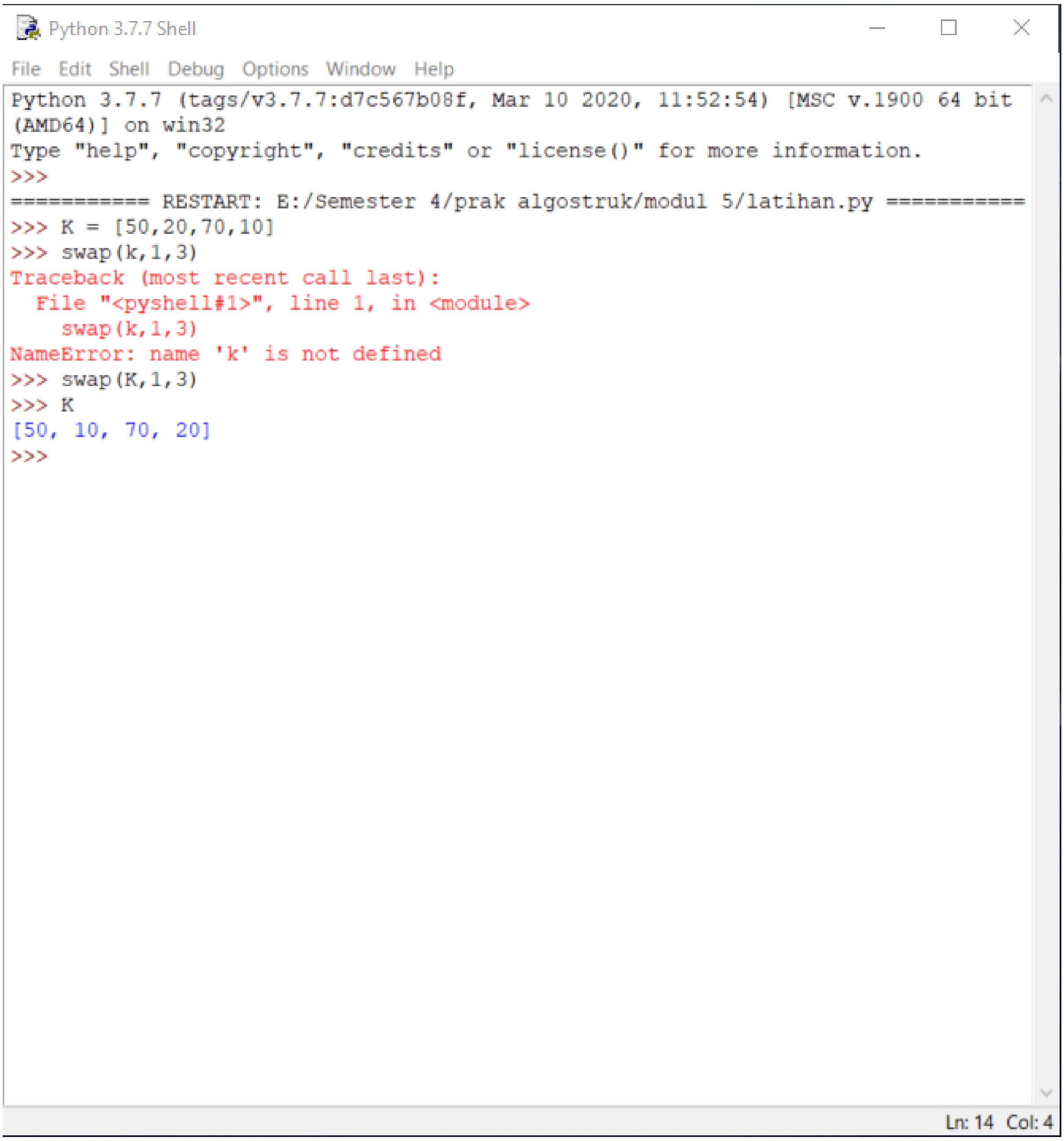
NIM : L200180079

Kelas : C

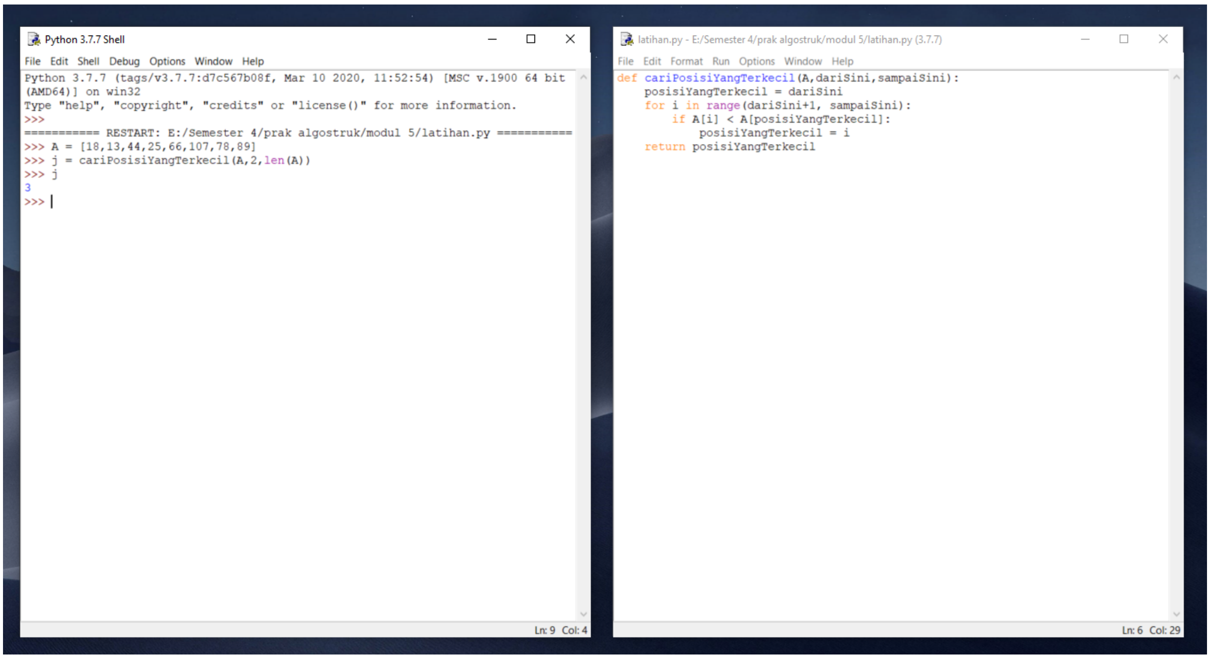
PRAK ASD

MODUL 5

LATIHAN



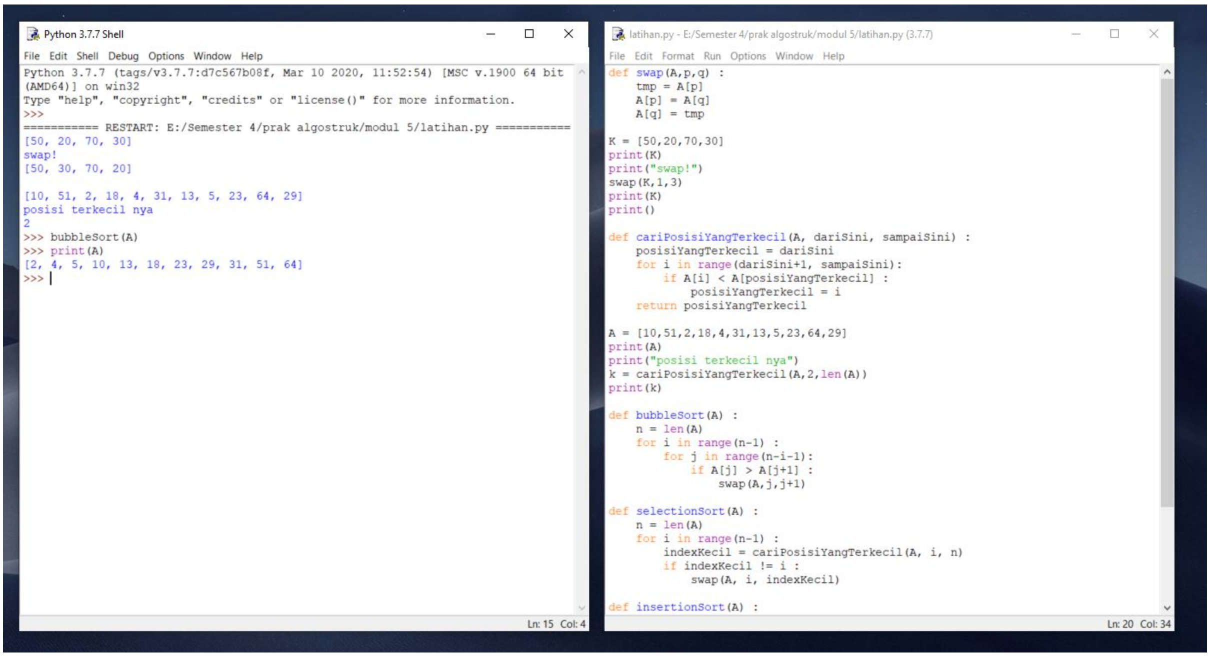
```
Python 3.7.7 (tags/v3.7.7:d7c567b08f, Mar 10 2020, 11:52:54) [MSC v.1900 64 bit
(AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>> 
=========== RESTART: E:/Semester 4/prak algostruk/modul 5/latihan.py ===========
>>> K = [50,20,70,10]
>>> swap(k,1,3)
Traceback (most recent call last):
  File "<pyshell#1>", line 1, in <module>
    swap(k,1,3)
NameError: name 'k' is not defined
>>> swap(K,1,3)
>>> K
[50, 10, 70, 20]
>>> 
```


Python 3.7.7 Shell
File Edit Shell Debug Options Window Help
Ln: 9 Col: 4
latihan.py - E:/Semester 4/prak algostruk/modul 5/latihan.py (3.7.7)
File Edit Format Run Options Window Help
Ln: 6 Col: 29

```
Python 3.7.7 (tags/v3.7.7:d7c567b08f, Mar 10 2020, 11:52:54) [MSC v.1900 64 bit
(AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
=========== RESTART: E:/Semester 4/prak algostruk/modul 5/latihan.py ===========
>>> A = [18,13,44,25,66,107,78,89]
>>> j = cariPosisiYangTerkecil(A,2,len(A))
>>> j
3
>>> 
```

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

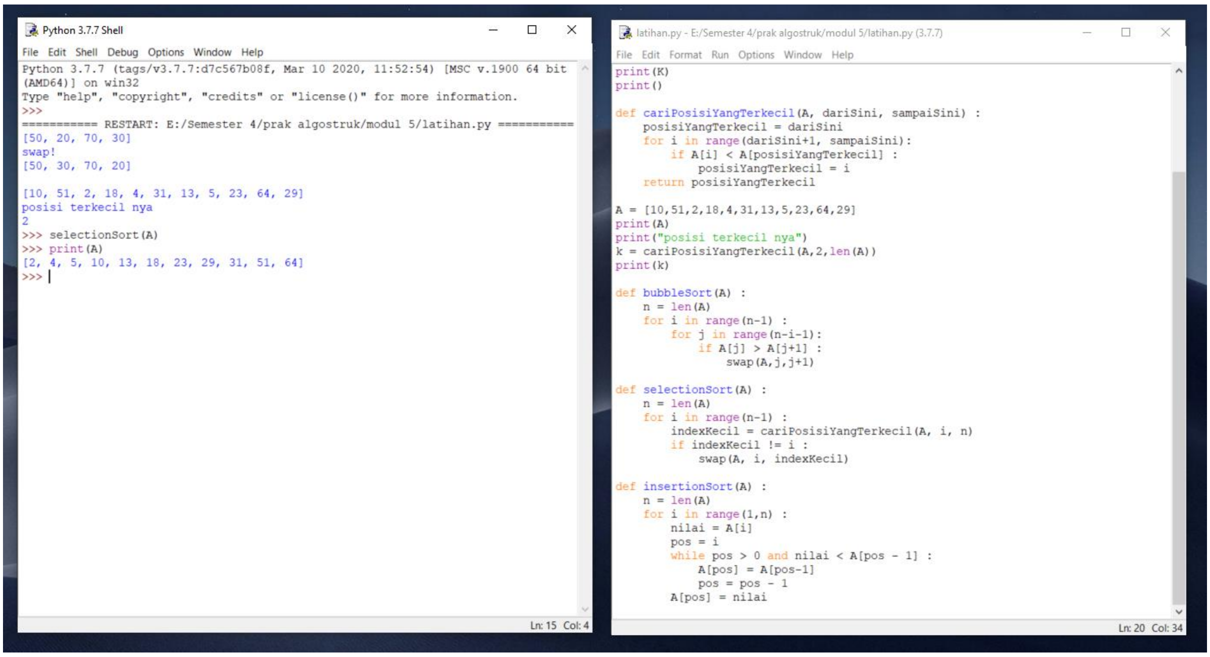
Bubble sort


Python 3.7.7 Shell
File Edit Shell Debug Options Window Help
Ln: 15 Col: 4
latihan.py - E:/Semester 4/prak algostruk/modul 5/latihan.py (3.7.7)
File Edit Format Run Options Window Help
Ln: 20 Col: 34

```
Python 3.7.7 (tags/v3.7.7:d7c567b08f, Mar 10 2020, 11:52:54) [MSC v.1900 64 bit
(AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
=========== RESTART: E:/Semester 4/prak algostruk/modul 5/latihan.py ===========
[50, 20, 70, 30]
swap!
[50, 30, 70, 20]

[10, 51, 2, 18, 4, 31, 13, 5, 23, 64, 29]
posisi terkecil nya
2
>>> bubbleSort(A)
>>> print(A)
[2, 4, 5, 10, 13, 18, 23, 29, 31, 51, 64]
>>> 
```

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

K = [50,20,70,30]
print(K)
print("swap!")
swap(K,1,3)
print(K)
print()

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

A = [10,51,2,18,4,31,13,5,23,64,29]
print(A)
print("posisi terkecil nya")
k = cariPosisiYangTerkecil(A,2,len(A))
print(k)

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) :
```

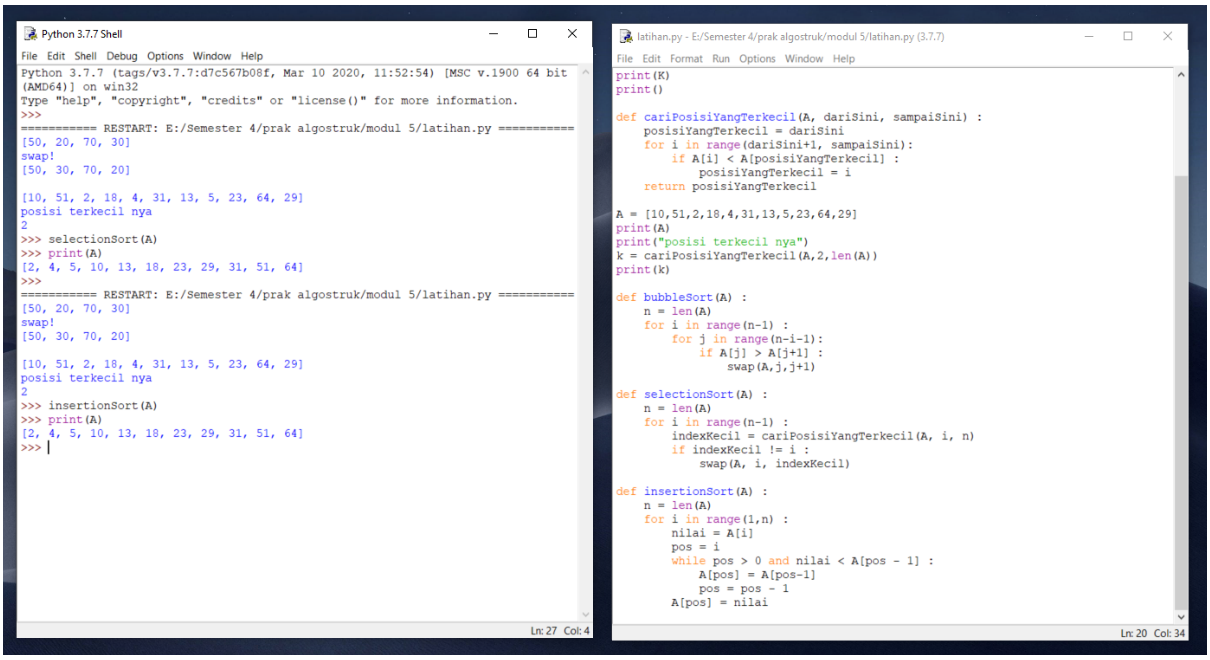
SelectionSort


Python 3.7.7 Shell
File Edit Shell Debug Options Window Help
Ln: 15 Col: 4
latihan.py - E:/Semester 4/prak algostruk/modul 5/latihan.py (3.7.7)
File Edit Format Run Options Window Help
Ln: 20 Col: 34

```
Python 3.7.7 (tags/v3.7.7:d7c567b08f, Mar 10 2020, 11:52:54) [MSC v.1900 64 bit
(AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
=========== RESTART: E:/Semester 4/prak algostruk/modul 5/latihan.py ===========
[50, 20, 70, 30]
swap!
[50, 30, 70, 20]

[10, 51, 2, 18, 4, 31, 13, 5, 23, 64, 29]
posisi terkecil nya
2
>>> selectionSort(A)
>>> print(A)
[2, 4, 5, 10, 13, 18, 23, 29, 31, 51, 64]
>>> 
```

```python
print(K)
print()

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

A = [10,51,2,18,4,31,13,5,23,64,29]
print(A)
print("posisi terkecil nya")
k = cariPosisiYangTerkecil(A,2,len(A))
print(k)

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
```

insertionSort


Python 3.7.7 Shell
File Edit Shell Debug Options Window Help
Ln: 27 Col: 4
latihan.py - E:/Semester 4/prak algostruk/modul 5/latihan.py (3.7.7)
File Edit Format Run Options Window Help
Ln: 20 Col: 34

```
Python 3.7.7 (tags/v3.7.7:d7c567b08f, Mar 10 2020, 11:52:54) [MSC v.1900 64 bit
(AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
=========== RESTART: E:/Semester 4/prak algostruk/modul 5/latihan.py ===========
[50, 20, 70, 30]
swap!
[50, 30, 70, 20]

[10, 51, 2, 18, 4, 31, 13, 5, 23, 64, 29]
posisi terkecil nya
2
>>> selectionSort(A)
>>> print(A)
[2, 4, 5, 10, 13, 18, 23, 29, 31, 51, 64]
>>>
=========== RESTART: E:/Semester 4/prak algostruk/modul 5/latihan.py ===========
[50, 20, 70, 30]
swap!
[50, 30, 70, 20]

[10, 51, 2, 18, 4, 31, 13, 5, 23, 64, 29]
posisi terkecil nya
2
>>> insertionSort(A)
>>> print(A)
[2, 4, 5, 10, 13, 18, 23, 29, 31, 51, 64]
>>> 
```

```python
print(K)
print()

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

A = [10,51,2,18,4,31,13,5,23,64,29]
print(A)
print("posisi terkecil nya")
k = cariPosisiYangTerkecil(A,2,len(A))
print(k)

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
```