Nama : MuchFatan Rahmadan
NIM : L200180061
Kelas : C

Modul 5

5.1

Program Python

Modul 5.py - C:/Users/Mr_Darkness/AppData/Local/Programs/Python/Python38-32/Modul 5.py (3.8.2)

File Edit Format Run Options Window Help

```
def swap(A,p,q):
    tmp = A[p]
    A[p] = A[q]
    A[q] = tmp
##Debuger
#K = [50,20,70,10]
#swap(K,1,3)
#K

##cariPosisiTerkecil
def cariPosisiYangTerkecil(A, dariSini, sampaiSini):
    posisiYangTerkecil = dariSini
    for i in range(dariSini+1, sampaiSini):
        if A[i] < A[posisiYangTerkecil]:
            posisiYangTerkecil = i
    return posisiYangTerkecil
##Debuger
#A = [18,13,44,25,66,107,78,89]
#j = cariPosisiYangTerkecil(A,2,len(A))
#j

##BubbleSort
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)
```

Hasil

Python 3.8.2 Shell

File Edit Shell Debug Options Window Help

```
Python 3.8.2 (tags/v3.8.2:7b3ab59, Feb 25 2020, 22:45:29) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/Mr_Darkness/AppData/Local/Programs/Python/Python38-32/Modul 5.py
>>> 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
>>> L = [10,51,2,18,4,31,13,5,23,64,29]
>>> bubbleSort(L)
>>> print(L)
[2, 4, 5, 10, 13, 18, 23, 29, 31, 51, 64]
>>>
```

5.2

Program Python

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

Hasil

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

5.3

Program Python

```
##InsertionSort
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
P=[10,51,2,18,4,31,13,5,23,64,29]
```

Ln: 23 Col: 4

Hasil

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