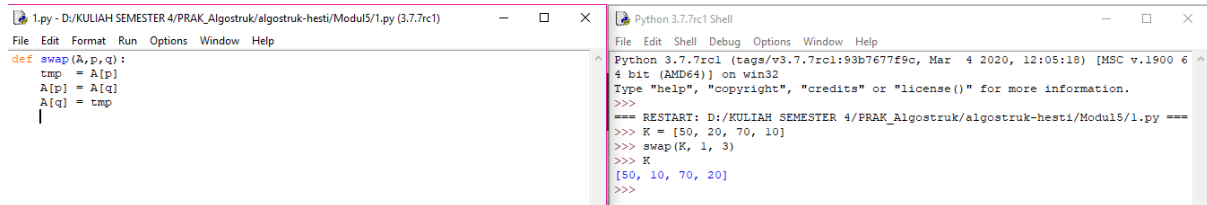


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Latihan Modul 5

1.



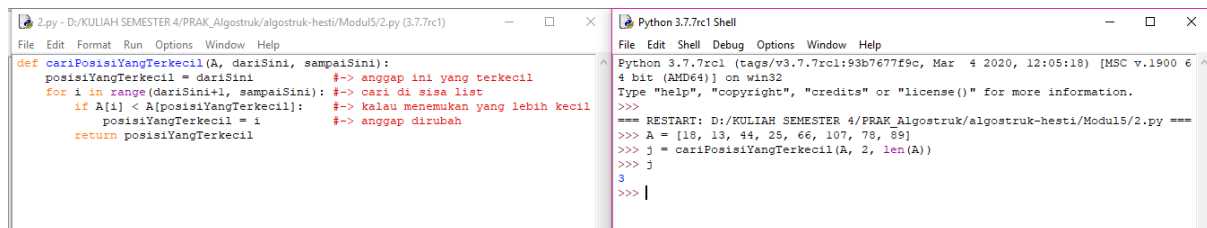
The screenshot shows a Python IDE with two windows. The left window, titled '1.py - D:/KULIAH SEMESTER 4/PRAK_Algostruk/algostruk-hesti/Modul5/1.py (3.7.7rc1)', contains the following code:

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

The right window, titled 'Python 3.7.7rc1 Shell', shows the execution of the code:

```
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.



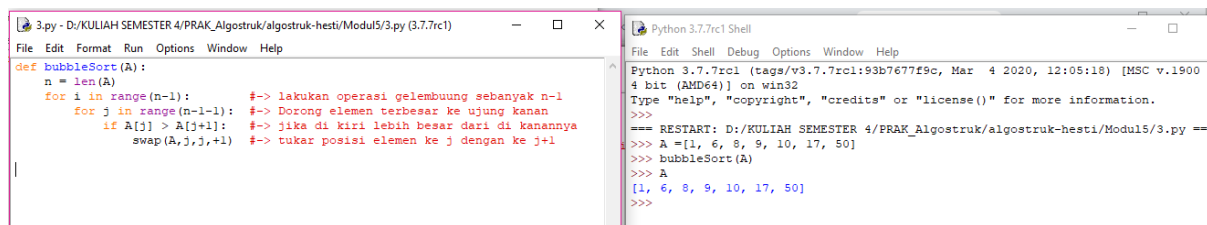
The screenshot shows a Python IDE with two windows. The left window, titled '2.py - D:/KULIAH SEMESTER 4/PRAK_Algostruk/algostruk-hesti/Modul5/2.py (3.7.7rc1)', contains the following code:

```
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  
|
```

The right window, titled 'Python 3.7.7rc1 Shell', shows the execution of the code:

```
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.



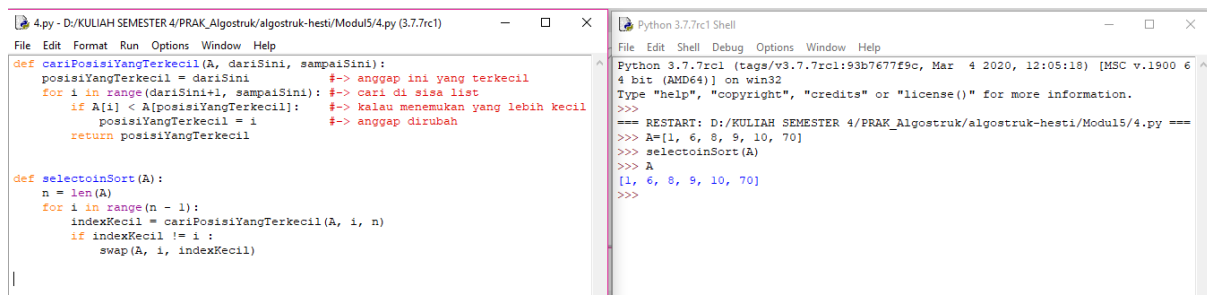
The screenshot shows a Python IDE with two windows. The left window, titled '3.py - D:/KULIAH SEMESTER 4/PRAK_Algostruk/algostruk-hesti/Modul5/3.py (3.7.7rc1)', contains the following code:

```
def bubbleSort(A):  
    n = len(A)  
    for i in range(n-1): #-> lakukan operasi gelembung 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  
|
```

The right window, titled 'Python 3.7.7rc1 Shell', shows the execution of the code:

```
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.



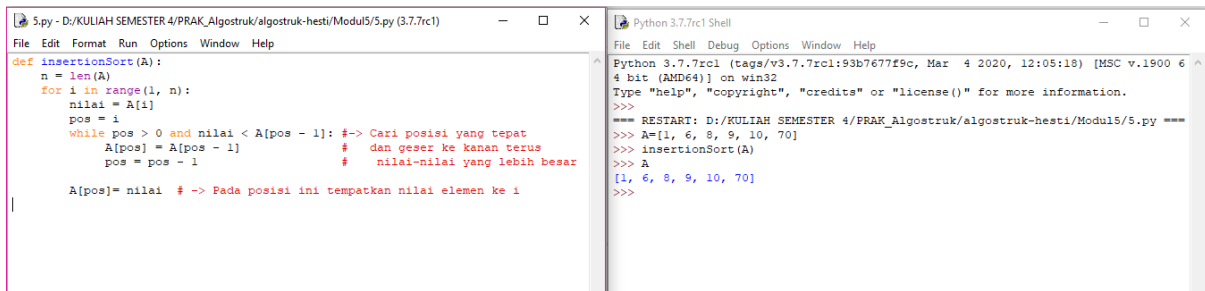
The screenshot shows a Python IDE with two windows. The left window, titled '4.py - D:/KULIAH SEMESTER 4/PRAK_Algostruk/algostruk-hesti/Modul5/4.py (3.7.7rc1)', contains the following code:

```
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)  
|
```

The right window, titled 'Python 3.7.7rc1 Shell', shows the execution of the code:

```
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.



The image shows a screenshot of a Python IDE with two windows. The left window is a text editor titled '5.py - D:/KULIAH SEMESTER 4/PRAK_Algostruk/algostruk-hesti/Modul5/5.py (3.7.7rc1)'. It contains the following Python code for an insertion sort algorithm:

```
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
```

The right window is a Python 3.7.7rc1 Shell titled 'Python 3.7.7rc1 Shell'. It shows the execution of the code:

```
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]
>>>
```