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MODUL 6

Praktikum AlgoritmaStrukturData

LATIHAN

1.

```
def gabungkanDuaListUrut(A,B):
    la=len(A); lb=len(B)
    C=list()
    i=0; j=0

    while i < la and j < lb:
        if A[i] < B[j]:
            C.append(A[i])
            i += 1
        else:
            C.append(A[i])
            j += 1
    while i < la:
        C.append(A[i])
        j += 1
    while j < lb:
        C.append(B[j])
        j += 1
    return C


    >>> alist = [54,26,93,17,31,44,55,20]
    >>> quickSort(alist)
    >>> print (alist)
    [17, 20, 26, 31, 44, 54, 55, 93]
```

2.

latihan2.py - D:/Prak Algostruk/MODUL_6/latihan2.py (3.7.4)

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```
def mergeSort(A):
    if len(A) > 1:
        mid = len(A) // 2
        separuhKiri = A[:mid]
        separuhKanan = A[mid:]

        mergeSort(separuhKiri)
        mergeSort(separuhKanan)

        i=0 ; j=0 ; k=0
        while i < len(separuhKiri) and j < len(separuhKanan):
            if separuhKiri[i] < separuhKanan[j]:
                A[k] = separuhKiri[i]
                i = i + 1
            else :
                A[k] = separuhKanan[j]
                j = j + 1
            k = k + 1

        while i < len(separuhKiri):
            A[k] = separuhKiri[i]
            i = i + 1
            k = k + 1

        while j < len(separuhKanan):
            A[k] = separuhKanan[j]
            j = j + 1
            k = k + 1

alist = [54,26,93,17,77,31,44,55,20]
mergeSort(alist)
print(alist)
```

Python 3.7.4 Shell

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```
Python 3.7.4 (tags/v3.7.4:e09359112e, Jul  8 2019, 19:29:22) [MSC v.1916 32 bit
(Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
============== RESTART: D:/Prak Algostruk/MODUL_6/latihan2.py ==============
[17, 20, 26, 31, 44, 54, 55, 77, 93]
>>>
```


3.

s.py - D:/Prak Algostruk/MODUL_6/s.py (3.7.4)

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```
def quickSort(A):
    quickSortBantu(A,0,len(A)-1)
def quickSortBantu(A, awal, akhir):
    if awal < akhir:
        titikBelah=partisi(A,awal,akhir)
        quickSortBantu(A,awal,titikBelah-1)
        quickSortBantu(A,titikBelah+1,akhir)
def partisi(A, awal,akhir):
    nilaiPivot=A[awal]

    penandaKiri=awal+1
    penandaKanan=akhir

    selesai=False
    while not selesai:

        while penandaKiri <= penandaKanan and A[penandaKiri] <= nilaiPivot:
            penandaKiri=penandaKiri+1
        while A[penandaKanan] >= nilaiPivot and penandaKanan >= penandaKiri:
            penandaKanan=penandaKanan-1
        if penandaKanan < penandaKiri:
            selesai=True
        else:
            temp=A[penandaKiri]
            A[penandaKiri]=A[penandaKanan]
            A[penandaKanan]=temp
    temp=A[awal]
    A[awal]=A[penandaKanan]
    A[penandaKanan]=temp
    return penandaKanan

x = [72, 71, 80, 21, 53, 42, 64, 35, 20]
quickSort(x)
print(x)
```

Python 3.7.4 Shell

File Edit Shell Debug Options Window Help

```
Python 3.7.4 (tags/v3.7.4:e09359112e, Jul  8 2019, 19:29:22) [MSC v.1916 32 bit
(Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
================== RESTART: D:/Prak Algostruk/MODUL_6/s.py ==================
[20, 21, 35, 42, 53, 64, 71, 72, 80]
>>>
```