

Praktikum Algostruk

Modul 6

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Kelas : A

Latihan

6.1

```
Python 3.7.4 Shell
File Edit Shell Debug Options Window Help
Python 3.7.4 (tags/v3.7.4:09359112e, Jul 8 2019, 19:29:22) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: E:\algostruk\MODUL_6\latihan 6.py =====
>>> gabungkanDualListUrut(list1, list2)
[1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
>>>
```

```
latihan 6.py - E:\algostruk\MODUL_6\latihan 6.py (3.7.4)
File Edit Format Run Options Window Help
#Latihan 6.1
def gabungkanDualListUrut(A, B):
    la = len(A)
    lb = len(B)
    C = []
    i = 0
    j = 0

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

list1 = [2, 3, 5, 7, 9]
list2 = [1, 4, 6, 8, 10]
```

6.2

```
Python 3.7.4 Shell
File Edit Shell Debug Options Window Help
(Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: E:\algostruk\MODUL_6\latihan 6.py =====
>>> mergeSort(alist)
Membelah [65, 72, 83, 88, 73, 51, 77, 41, 20]
Membelah [65, 72, 83, 88]
Membelah [65, 72]
Membelah [65]
Menggabungkan [65]
Membelah [72]
Menggabungkan [72]
Menggabungkan [65, 72]
Membelah [83, 88]
Membelah [83]
Menggabungkan [83]
Membelah [88]
Menggabungkan [88]
Menggabungkan [83, 88]
Membelah [73, 51, 77, 41, 20]
Membelah [73, 51]
Membelah [73]
Menggabungkan [73]
Membelah [51]
Menggabungkan [51]
Menggabungkan [51, 73]
Membelah [77, 41, 20]
Membelah [77]
Menggabungkan [77]
Membelah [41, 20]
Membelah [41]
Menggabungkan [41]
Membelah [20]
Menggabungkan [20]
Menggabungkan [20, 41]
Menggabungkan [20, 41, 77]
Menggabungkan [20, 41, 51, 73, 77]
Menggabungkan [20, 41, 51, 65, 72, 73, 77, 83, 88]
>>>
```

```
latihan 6.py - E:\algostruk\MODUL_6\latihan 6.py (3.7.4)
File Edit Format Run Options Window Help
#Latihan 6.2
def mergeSort(A):
    print("Membelah", 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
        print("Menggabungkan", A)


alist = [65, 72, 83, 88, 73, 51, 77, 41, 20]
```

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6.3

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Python 3.7.4 Shell
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(Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
=====RESTART: E:\algotruk\MODUL_6\latihan 6.py =====
[20, 41, 51, 65, 72, 73, 77, 83, 88]
>>>
```

```
latihan 6.py - E:\algotruk\MODUL_6\latihan 6.py (3.7.4)
File Edit Format Run Options Window Help

#Latihan 6.3
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 = [65, 72, 83, 88, 73, 51, 77, 41, 20]
quickSort(x)
print(x)
```