

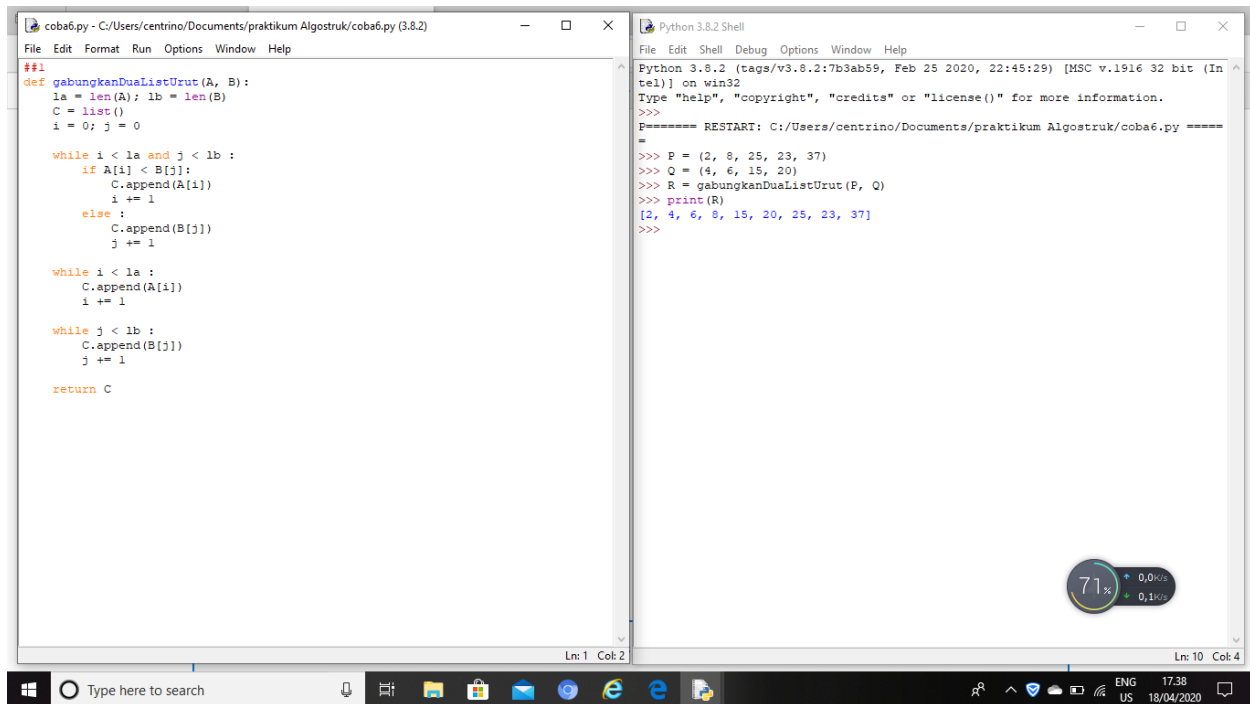
Nama : Ari wibowo

Nim : L200180056

Kelas : C

MODUL 6

1.



The screenshot displays a Python IDE with two windows. The left window, titled 'coba6.py - C:/Users/centrino/Documents/praktikum Algostruk/coba6.py (3.8.2)', contains the following Python code:

```
##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(B[j])
            j += 1

    while i < la :
        C.append(A[i])
        i += 1

    while j < lb :
        C.append(B[j])
        j += 1

    return C
```

The right window, titled 'Python 3.8.2 Shell', shows the execution of the code:

```
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.
>>>
P===== RESTART: C:/Users/centrino/Documents/praktikum Algostruk/coba6.py =====
>>> P = (2, 8, 25, 23, 37)
>>> Q = (4, 6, 15, 20)
>>> R = gabungkanDuaListUrut(P, Q)
>>> print(R)
[2, 4, 6, 8, 15, 20, 25, 23, 37]
>>>
```

The Windows taskbar at the bottom shows the search bar, taskbar icons, and system tray with a temperature of 71°F, time 17:38, and date 18/04/2020.

2.

```
coba6.py - C:/Users/centrino/Documents/praktikum Algotruk/coba6.py (3.8.2)
File Edit Format Run Options Window Help

    i += 1
    while j < lb :
        C.append(B[j])
        j += 1
    return C

##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)

Python 3.8.2 Shell
File Edit Shell Debug Options Window Help

===== RESTART: C:/Users/centrino/Documents/praktikum Algotruk/coba6.py =====
>>> alist = [54, 26, 93, 17, 77, 31, 44, 55, 20]
>>> mergeSort(alist)
Membelah      [54, 26, 93, 17, 77, 31, 44, 55, 20]
Membelah      [54, 26, 93, 17]
Membelah      [54, 26]
Membelah      [54]
Menggabungkan [54]
Membelah      [26]
Menggabungkan [26]
Menggabungkan [26, 54]
Membelah      [93, 17]
Membelah      [93]
Menggabungkan [93]
Membelah      [17]
Menggabungkan [17]
Menggabungkan [17, 93]
Menggabungkan [17, 93, 26, 54]
Membelah      [77, 31, 44, 55, 20]
Membelah      [77, 31]
Membelah      [77]
Menggabungkan [77]
Membelah      [31]
Menggabungkan [31]
Menggabungkan [31, 77]
Membelah      [44, 55, 20]
Membelah      [44]
Menggabungkan [44]
Membelah      [55, 20]
Membelah      [55]
Menggabungkan [55]
Membelah      [20]
Menggabungkan [20]
Menggabungkan [20, 55]
Menggabungkan [20, 55, 44]
Menggabungkan [20, 55, 44, 31, 77]
Menggabungkan [17, 20, 55, 44, 31, 77, 93, 26, 54]
>>> print(alist)
[17, 20, 55, 44, 31, 77, 93, 26, 54]
>>>
```

3.

```
coba6.py - C:/Users/centrino/Documents/praktikum Algotruk/coba6.py (3.8.2)
File Edit Format Run Options Window Help

    k = k + 1
    print("Menggabungkan ", A)

##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

Python 3.8.2 Shell
File Edit Shell Debug Options Window Help

===== RESTART: C:/Users/centrino/Documents/praktikum Algotruk/coba6.py =====
>>> alist = [54, 26, 93, 17, 77, 31, 44, 55, 20]
>>> quickSort(alist)
>>> print(alist)
[17, 20, 55, 44, 31, 77, 93, 26, 54]
>>>
```