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Kelas G

Nomor 1

```
class MhsTIF():
    def __init__(self, nim):
        self.nim = nim

    def __str__(self):
        return str(self.nim)

c0 = MhsTIF(10)
c1 = MhsTIF(51)
c2 = MhsTIF(2)
c3 = MhsTIF(18)
c4 = MhsTIF(4)
c5 = MhsTIF(31)
c6 = MhsTIF(13)
c7 = MhsTIF(5)
c8 = MhsTIF(23)
c9 = MhsTIF(64)
c10 = MhsTIF(29)

c0.next = c1
c1.next = c2
c2.next = c3
c3.next = c4
c4.next = c5
c5.next = c6
c6.next = c7
c7.next = c8
c8.next = c9
c9.next = c10

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 penandakanan >= penandakiri and A[penandakanan] >= nilaipivot:
            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

def quickSortBantu(A, awal, akhir):
    if awal < akhir:
        titikBelah = partisi(A, awal, akhir)
        quickSortBantu(A, awal, titikBelah-1)
        quickSortBantu(A, titikBelah+1, akhir)

def quickSort(A):
    quickSortBantu (A, 0, len(A)-1)

def convert(arr, obj):
    hasil=[]
    for x in range (len(arr)):
        for i in range (len(arr)):
            if arr[x] == obj[i].nim:
                hasil.append(obj[i])
    return hasil

Daftar = [c0, c1, c2, c3, c4, c5, c6, c7, c8, c9, c10]
A = []
for x in Daftar:
    A.append(x.nim)
```

Ln: 1 Col: 0

```
class MhsTIF():
    def __init__(self, nim):
        self.nim = nim

    def __str__(self):
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c0.next = c1
c1.next = c2
c2.next = c3
c3.next = c4
c4.next = c5
c5.next = c6
c6.next = c7
c7.next = c8
c8.next = c9
c9.next = c10

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)

def convert(arr, obj):
    hasil=[]
    for x in range (len(arr)):
        for i in range (len(arr)):
            if arr[x] == obj[i].nim:
                hasil.append(obj[i])
    return hasil

Daftar = [c0, c1, c2, c3, c4, c5, c6, c7, c8, c9, c10]
A = []
for x in Daftar:
    A.append(x.nim)

print("MERGE SORT")
mergeSort(A)
for x in convert(A, Daftar):
    print (x.nim)
```

Ln: 1 Col: 0

```
            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

def quickSortBantu(A, awal, akhir):
    if awal < akhir:
        titikBelah = partisi(A, awal, akhir)
        quickSortBantu(A, awal, titikBelah-1)
        quickSortBantu(A, titikBelah+1, akhir)

def quickSort(A):
    quickSortBantu (A, 0, len(A)-1)

def convert(arr, obj):
    hasil=[]
    for x in range (len(arr)):
        for i in range (len(arr)):
            if arr[x] == obj[i].nim:
                hasil.append(obj[i])
    return hasil

Daftar = [c0, c1, c2, c3, c4, c5, c6, c7, c8, c9, c10]
A = []
for x in Daftar:
    A.append(x.nim)

print("QUICK SORT")
quickSort(A)
for x in convert(A, Daftar):
    print (x.nim)
```

Ketika di run

```
QUICK SORT
2
4
5
10
13
18
23
29
31
51
64
>>>
```

Nomor 3 ketika di run

```
[2, 4, 5, 10, 13, 18, 23, 29, 31, 51, 64]
[2, 4, 5, 10, 13, 18, 23, 29, 31, 51, 64]
[2, 4, 5, 10, 13, 18, 23, 29, 31, 51, 64]
[2, 4, 5, 10, 13, 18, 23, 29, 31, 51, 64]
[2, 4, 5, 10, 13, 18, 23, 29, 31, 51, 64]
bubble: 8.8859 detik
```

```
MERGE SORT
2
4
5
10
13
18
23
29
31
51
64
>>>
```