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L200180198/G
Modul 4

NO 1

nomor 1.py - C:\Users\Khumaila\Documents\prak algostruk\modul_4\nomor 1.py (3.7.4)

File Edit Format Run Options Window Help

```
class Mhs(object):
    def __init__(self, nama, nim, kota, uangsaku):
        self.nama = nama
        self.nim = nim
        self.kotaTinggal = kota
        self.uangSaku = uangsaku

m0 = Mhs("Khumaila", 198, "Surakarta", 500000)
m1 = Mhs("Tery", 199, "Sukoharjo", 700000)
m2 = Mhs("Nevgy", 200, "Surakarta", 650000)
m3 = Mhs("Putri", 201, "Klaten", 55000)
m4 = Mhs("Rezki", 203, "Boyolali", 540000)
m5 = Mhs("Naufal", 204, "Magelang", 350000)
m6 = Mhs("Sultan", 205, "Klaten", 1000000)
m7 = Mhs("Elgar", 206, "Wonogiri", 545000)
m8 = Mhs("Devino", 207, "Klaten", 645000)
m9 = Mhs("Gina", 208, "Surakarta", 570000)
m10 = Mhs("Kevin", 209, "Purwodadi", 455000)

Daftar = [m0, m1, m2, m3, m4, m5, m6, m7, m8, m9, m10]

def cariKotaTinggal(list, target):
    a = []
    for i in list :
        if i.kotaTinggal == target:
            a.append(list.index(i))
    return a

a = cariKotaTinggal(Daftar, "Klaten")
print(a)
```

```
Python 3.7.4 (tags/v3.7.4:e09359112e, Jul  8 2019, 20:34:20) [MSC v.1916 64 bit
(AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
=== RESTART: C:\Users\Khumaila\Documents\prak algostruk\modul_4\nomor 1.py ===
[3, 6, 8]
>>>
```

NO 2

nomor 2.py - C:\Users\Khumaila\Documents\prak algostruk\modul_4\nomor 2.py (3.7.4)

File Edit Format Run Options Window Help

```
class Mhs(object):
    def __init__(self, nama, nim, kota, uangsaku):
        self.nama = nama
        self.nim = nim
        self.kotaTinggal = kota
        self.uangSaku = uangsaku

m0 = Mhs("Khumaila", 198, "Surakarta", 50000)
m1 = Mhs("Tery", 199, "Sukoharjo", 700000)
m2 = Mhs("Nevgy", 200, "Surakarta", 650000)
m3 = Mhs("Putri", 201, "Klaten", 55000)
m4 = Mhs("Rezki", 203, "Boyolali", 540000)
m5 = Mhs("Naufal", 204, "Magelang", 350000)
m6 = Mhs("Sultan", 205, "Klaten", 1000000)
m7 = Mhs("Elgar", 206, "Wonogiri", 545000)
m8 = Mhs("Devino", 207, "Klaten", 64000)
m9 = Mhs("Gina", 208, "Surakarta", 57000)
m10 = Mhs("Kevin", 209, "Purwodadi", 45000)

Daftar = [m0, m1, m2, m3, m4, m5, m6, m7, m8, m9, m10]

def cariUangSakuTerkecil(list):
    temp = list[0].uangSaku
    for i in list[1:]:
        if i.uangSaku < temp:
            temp = i.uangSaku
    return temp

a = cariUangSakuTerkecil(Daftar)
print(a)
```

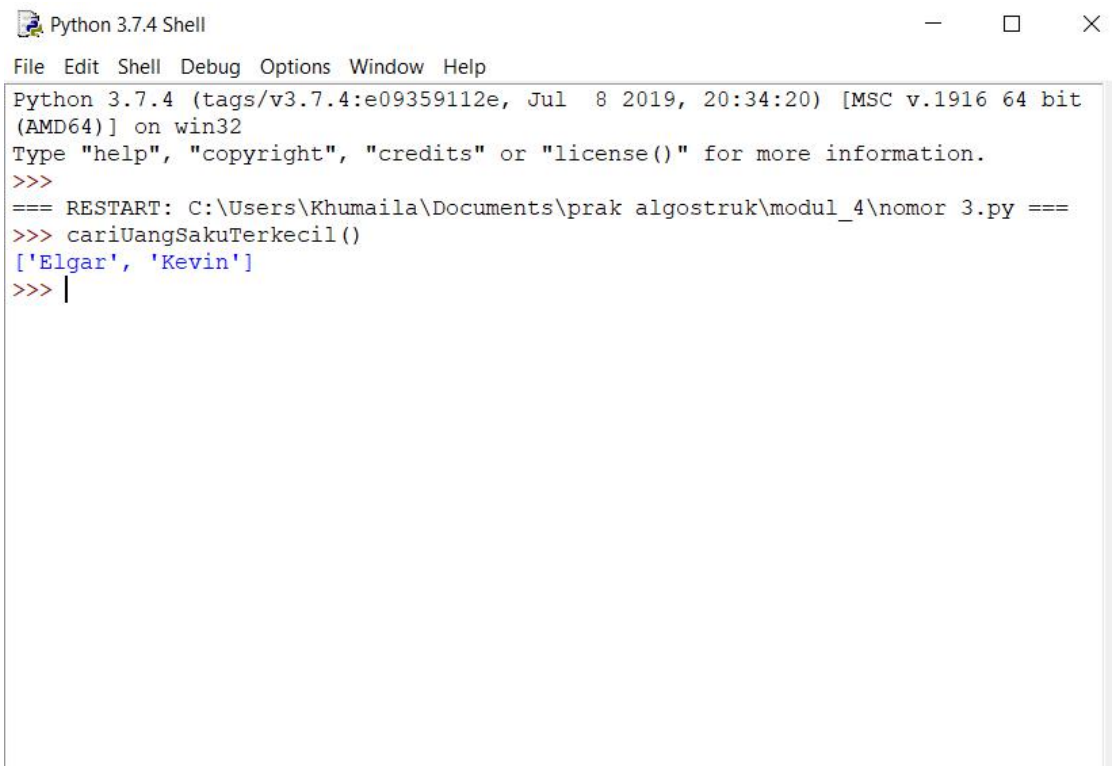
```
Python 3.7.4 (tags/v3.7.4:e09359112e, Jul  8 2019, 20:34:20) [MSC v.1916 64 bit
(AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
=== RESTART: C:\Users\Khumaila\Documents\prak algostruk\modul_4\nomor 2.py ===
45000
>>>
```

NO 3

nomor 3.py - C:\Users\Khumaila\Documents\prak algostruk\modul_4\nomor 3.py (3.7.4)

File Edit Format Run Options Window Help

```
class Mhs(object):
    def __init__(self, nama, nim, kota, uangsaku):
        self.nama = nama
        self.nim = nim
        self.kotaTinggal = kota
        self.uangSaku = uangsaku

m0 = Mhs("Khumaila", 198, "Surakarta", 50000)
m1 = Mhs("Tery", 199, "Sukoharjo", 700000)
m2 = Mhs("Nevgy", 200, "Surakarta", 650000)
m3 = Mhs("Putri", 201, "Klaten", 55000)
m4 = Mhs("Rezki", 203, "Boyolali", 540000)
m5 = Mhs("Naufal", 204, "Magelang", 350000)
m6 = Mhs("Sultan", 205, "Klaten", 1000000)
m7 = Mhs("Elgar", 206, "Wonogiri", 45000)
m8 = Mhs("Devino", 207, "Klaten", 64000)
m9 = Mhs("Gina", 208, "Surakarta", 57000)
m10 = Mhs("Kevin", 209, "Purwodadi", 45000)

Daftar = [m0, m1, m2, m3, m4, m5, m6, m7, m8, m9, m10]

def cariUangSakuTerkecil():
    terkecil = Daftar[0].uangSaku
    x = []
    a = cariUangSakuTerkecil
    for i in range (len(Daftar)):
        if terkecil > Daftar[i].uangSaku:
            terkecil = Daftar[i].uangSaku

    for i in range (len(Daftar)):
        if Daftar[i].uangSaku == terkecil:
            x.append(Daftar[i].nama)
    return x
```

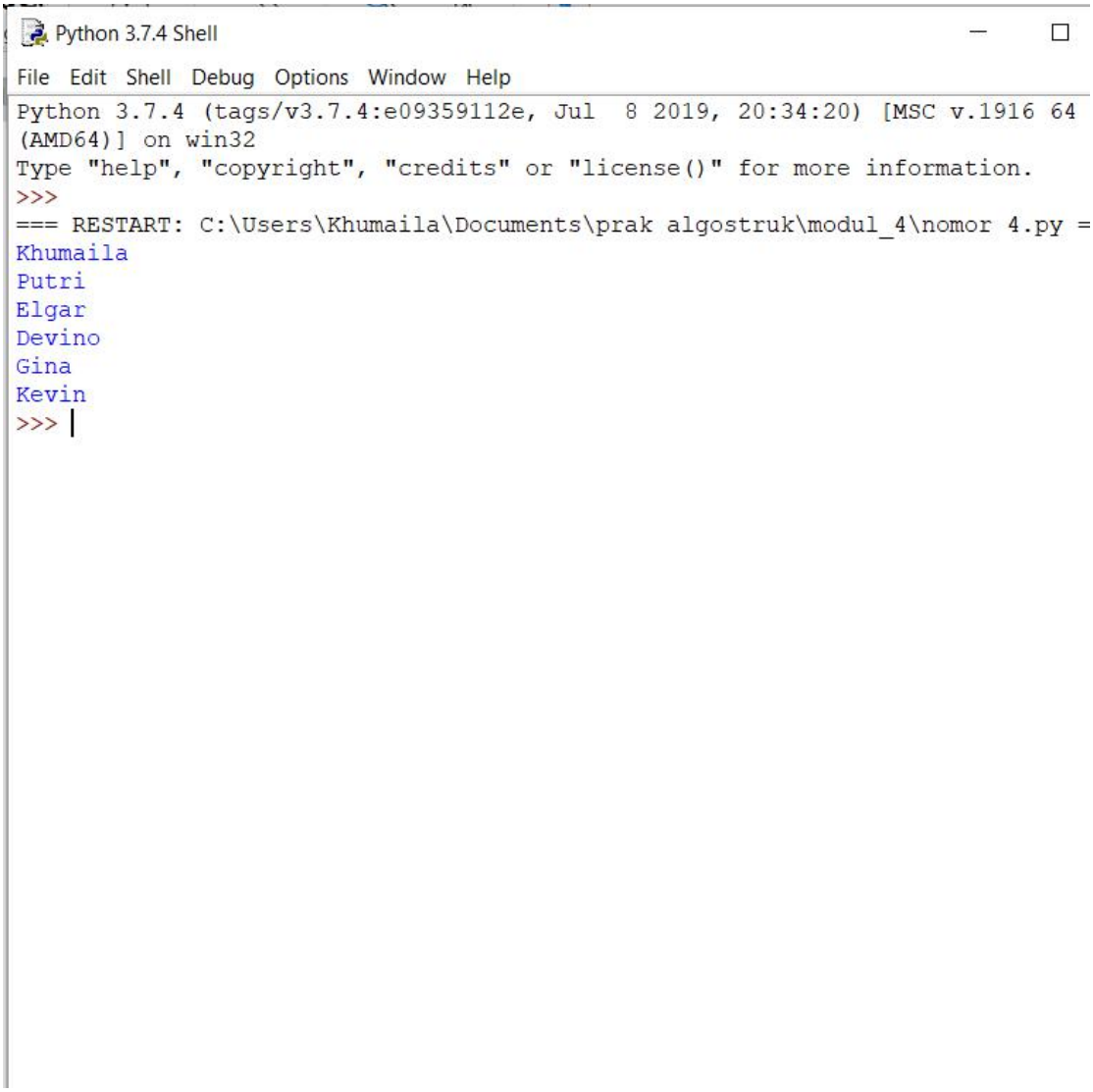

Python 3.7.4 Shell
File Edit Shell Debug Options Window Help
Python 3.7.4 (tags/v3.7.4:e09359112e, Jul 8 2019, 20:34:20) [MSC v.1916 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
=== RESTART: C:\Users\Khumaila\Documents\prak algostruk\modul_4\nomor 3.py ===
>>> cariUangSakuTerkecil()
['Elgar', 'Kevin']
>>>

NO 4

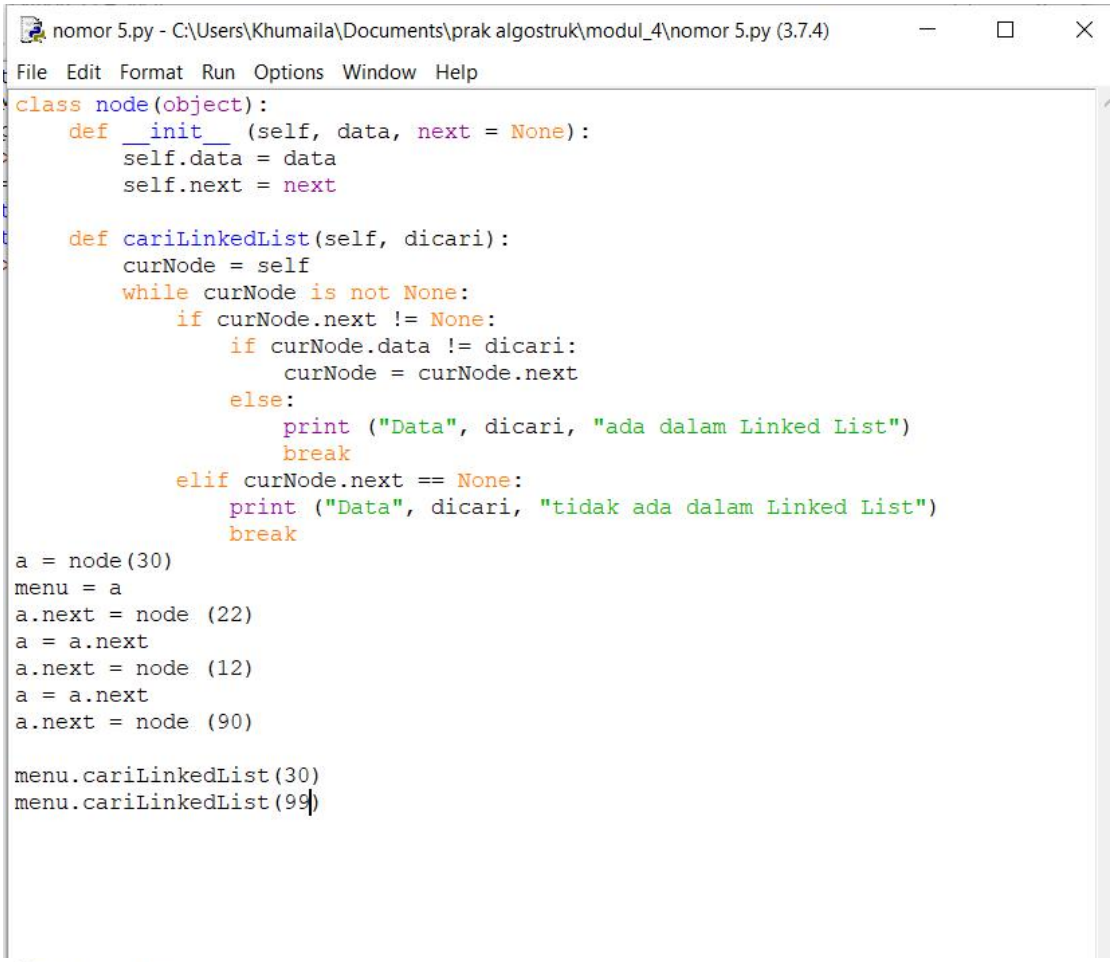
nomor 4.py - C:\Users\Khumaila\Documents\prak algostruk\modul_4\nomor 4.py (3.7.4)

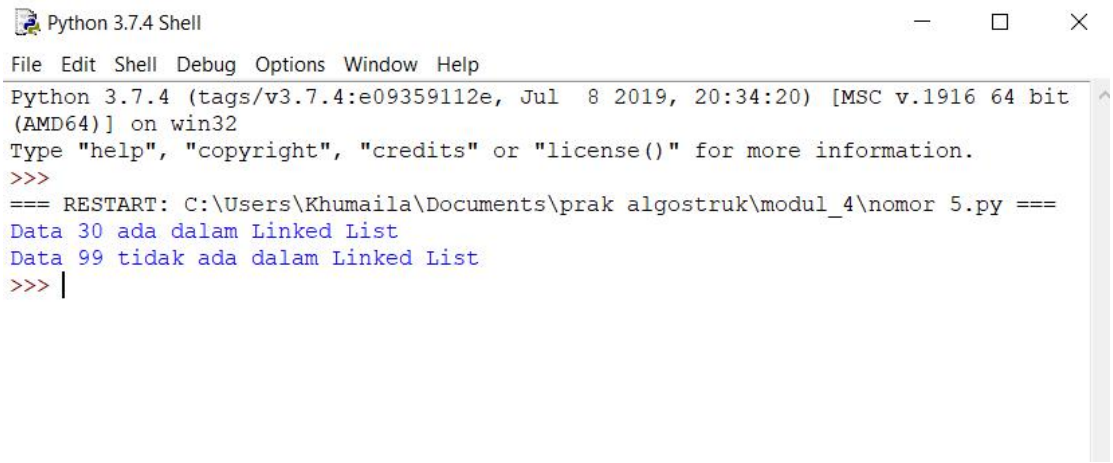
File Edit Format Run Options Window Help

```
class Mhs(object):
    def __init__(self, nama, nim, kota, uangsaku):
        self.nama = nama
        self.nim = nim
        self.kotaTinggal = kota
        self.uangSaku = uangsaku

m0 = Mhs("Khumaila", 198, "Surakarta", 50000)
m1 = Mhs("Tery", 199, "Sukoharjo", 700000)
m2 = Mhs("Nevgy", 200, "Surakarta", 650000)
m3 = Mhs("Putri", 201, "Klaten", 55000)
m4 = Mhs("Rezki", 203, "Boyolali", 540000)
m5 = Mhs("Naufal", 204, "Magelang", 350000)
m6 = Mhs("Sultan", 205, "Klaten", 1000000)
m7 = Mhs("Elgar", 206, "Wonogiri", 45000)
m8 = Mhs("Devino", 207, "Klaten", 64000)
m9 = Mhs("Gina", 208, "Surakarta", 57000)
m10 = Mhs("Kevin", 209, "Purwodadi", 45000)

Daftar = [m0, m1, m2, m3, m4, m5, m6, m7, m8, m9, m10]

def cariUangSakuKurang250k(list):
    baru = []
    for i in list:
        if i.uangSaku < 250000:
            baru.append(i)
    return baru

a = cariUangSakuKurang250k(Daftar)
for i in a:
    print(i.nama)
```


Python 3.7.4 Shell
File Edit Shell Debug Options Window Help
Python 3.7.4 (tags/v3.7.4:e09359112e, Jul 8 2019, 20:34:20) [MSC v.1916 64 (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
=== RESTART: C:\Users\Khumaila\Documents\prak algostruk\modul_4\nomor 4.py =
Khumaila
Putri
Elgar
Devino
Gina
Kevin
>>>

NO 5


nomor 5.py - C:\Users\Khumaila\Documents\prak algostruk\modul_4\nomor 5.py (3.7.4)
File Edit Format Run Options Window Help
class node(object):
def __init__ (self, data, next = None):
self.data = data
self.next = next
def cariLinkedList(self, dicari):
curNode = self
while curNode is not None:
if curNode.next != None:
if curNode.data != dicari:
curNode = curNode.next
else:
print ("Data", dicari, "ada dalam Linked List")
break
elif curNode.next == None:
print ("Data", dicari, "tidak ada dalam Linked List")
break
a = node(30)
menu = a
a.next = node (22)
a = a.next
a.next = node (12)
a = a.next
a.next = node (90)
menu.cariLinkedList(30)
menu.cariLinkedList(99)


Python 3.7.4 Shell
File Edit Shell Debug Options Window Help
Python 3.7.4 (tags/v3.7.4:e09359112e, Jul 8 2019, 20:34:20) [MSC v.1916 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
=== RESTART: C:\Users\Khumaila\Documents\prak algostruk\modul_4\nomor 5.py ===
Data 30 ada dalam Linked List
Data 99 tidak ada dalam Linked List
>>>

NO 6

nomor 6.py - C:\Users\Khumaila\Documents\prak algostruk\modul_4\nomor 6.py (3.7.4)

File Edit Format Run Options Window Help

```
def binSe(kumpulan, target):
    low = 0
    high = len(kumpulan)-1
    while low <= high:
        mid = (high+low)//2
        if kumpulan[mid] == target:
            return mid
        elif target < kumpulan[mid]:
            high = mid-1
        else:
            low = mid+1
    return False

kumpulan = [2, 4, 5, 10, 13, 18, 23, 29, 31, 51, 64]
print(binSe(kumpulan, 6))
print(binSe(kumpulan,5))
```

```
>>>
=== RESTART: C:\Users\Khumaila\Documents\prak algostruk\modul_4\nomor 6.py ===
False
2
>>>
```

NO 7

nomor 7.py - C:\Users\Khumaila\Documents\prak algostruk\modul_4\nomor 7.py (3.7.4)

File Edit Format Run Options Window Help

```
def binSeMass(kumpulan, target):
    temp = []
    low = 0
    high = len(kumpulan)-1
    while low <= high :
        mid = (high+low)//2
        if kumpulan[mid] == target:
            midKiri = mid-1
            while kumpulan[midKiri] == target:
                temp.append(midKiri)
                midKiri = midKiri-1
            temp.append(mid)
            midKanan = mid+1
            while kumpulan[midKanan] == target:
                temp.append(midKanan)
                midKanan = midKanan+1
            return temp
        elif target < kumpulan[mid]:
            high = mid-1
        else:
            low = mid+1
    return False

kumpulan = [2, 4, 9, 6, 6, 6, 8, 9, 9, 10, 3, 3, 3, 13, 9]
print(binSeMass(kumpulan, 6))
```

```
=== RESTART: C:\Users\Khumaila\Documents\prak algostruk\modul_4\nomor 7.py ===
[3, 4, 5]
>>>
```

NO 8

nomor 8.py - C:\Users\Khumaila\Documents\prak algostruk\modul_4\nomor 8.py (3.7.4)

File Edit Format Run Options Window Help

```
print
"""Dalam hal ini digunakan konsep Big-O. Dimana menggunakan
rumus O(log n),Di mana log berasal dari pangkat log berbasis 2
dengan rincian 1 = 1, 2 = 2, 4 = 3, 10 = 4, 100 = 7, 1000=10.
Dengan begitu kita dapat mengetahui jumlah maksimal tebakan.
Untuk pola sendiri:
        apabila ingin menebak angka 70

        a = nilai tebakan pertama // 2
        tebakan selanjutnya = nilai tebakan "lebih dari" + a
        *jika hasil tebakan selanjutnya "kurang dari", maka nilai yang dipakai
        tetap nilai lebih dari sebelumnya*
        a = a // 2
    Simulasi
        tebakan ke 1: 50 (mengambil nilai tengah) jawaban= "lebih dari itu"
        tebakan ke 2: 75 (dari 50 + 25) jawaban = "kurang dari itu"
        tebakan ke 3: 62 (dari 50 + 12) jawaban = "lebih dari itu"
        tebakan ke 4: 68 (dari 62 + 6) jawaban = "lebih dari itu"
        tebakan ke 5: 71 (dari 68 + 3) jawaban = "kurang dari itu"
        tebakan ke 6: 69 (dari 68 + 1) jawaban = "lebih dari itu"
        tebakan ke 7: antara 71 dan 69 hanya ada 1 angka = 70!!!
"""
```