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NIM   : L200180125
Kelas   : E

MODUL 4

Nomer 1-4

```
Python 2.7.10 (default, May 23 2015, 09:40:32) [MSC v.1500 32 bit (Intel)] on win32
Type "copyright", "credits" or "license()" for more information.
>>> =============================== RESTART ===============================
>>>
>>> cariAsal()
Masukkan kota: "klaten"
[]
>>> cariUSTerkecil()
230000
>>> cariUSTerkecil2()
['Budi']
>>> carikurang25()
['Ika', 'Budi', 'Chandra', 'Eka', 'Deni', 'Galuh', 'Janto']
>>>
```

No 1-4_modul4.py - C:\Users\jainal\Documents\No 1-4_modul4.py (2.7.10)

```python
class MhsTIF(object):
    def __init__(self, nama, nim, kota, us):
        self.nama = nama
        self.nim = nim
        self.kota = kota
        self.uangSaku = us
    def __str__(self):
        s = self.nama + ', nim ' + str(self.nim)\
            + '. Tinggal di ' + self.kota\
            + '. Uang saku Rp ' + str(self.uangSalu)\
            + '. tiap bulannya.'
        return s

c0 = MhsTIF("Ika", 10, "Sukoharjo", 240000)
c1 = MhsTIF("Budi", 51, "Sragen", 230000)
c2 = MhsTIF("Ahmad", 2, "Surakarta", 250000)
c3 = MhsTIF("Chandra", 18, "Surakarta", 235000)
c4 = MhsTIF("Eka", 4, "Boyolali", 240000)
c5 = MhsTIF("Fandi", 31, "Salatiga", 250000)
c6 = MhsTIF("Deni", 13, "Klaten", 245000)
c7 = MhsTIF("Galuh", 5, "Wonogiri", 245000)
c8 = MhsTIF("Janto", 23, "Klaten", 245000)
c9 = MhsTIF("Hasan", 64, "Karanganyar", 270000)
c10 = MhsTIF("Khalid", 29, "Purwodadi", 265000)

Daftar = [c0, c1, c2, c3, c4, c5, c6, c7, c8, c9, c10]

#No. 1
def cariAsal():
    target = input("Masukkan kota: ")
    x = []
    for i in range (len(Daftar)):
        if target == Daftar[i].kota:
            x.append(i)
    print(x)

#No. 2
def cariUSTerkecil():
    terkecil = Daftar[0].uangSaku
    for i in range (len(Daftar)):
        if terkecil > Daftar[i].uangSaku:
            terkecil = Daftar[i].uangSaku
    return terkecil
```

No 1-4_modul4.py - C:/Users/jainal/Documents/No 1-4_modul4.py (2.7.10)

```python
c10 = MhsTIF("Khalid", 29, "Purwodadi", 265000)

Daftar = [c0, c1, c2, c3, c4, c5, c6, c7, c8, c9, c10]

#No. 1
def cariAsal():
    target = input("Masukkan kota: ")
    x = []
    for i in range (len(Daftar)):
        if target == Daftar[i].kota:
            x.append(i)
    print(x)

#No. 2
def cariUSTerkecil():
    terkecil = Daftar[0].uangSaku
    for i in range (len(Daftar)):
        if terkecil > Daftar[i].uangSaku:
            terkecil = Daftar[i].uangSaku
    return terkecil

#No. 3
def cariUSTerkecil2():
    terkecil = Daftar[0].uangSaku
    x = []
    a = cariUSTerkecil
    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

#No. 4
def carikurang25():
    a = 250000
    x = []
    for i in range(len(Daftar)):
        if Daftar[i].uangSaku < a:
            x.append(Daftar[i].nama)
    return x
```

Nomer 5

Python 2.7.10 Shell

```
File  Edit  Shell  Debug  Options  Window  Help
Python 2.7.10 (default, May 23 2015, 09:40:32) [MSC v.1500 32 bit (Intel)] on win32
Type "copyright", "credits" or "license()" for more information.
>>> ================================ RESTART ================================
>>>
>>> cariAsal()
Masukkan kota: "klaten"
[]
>>> cariUSTerkecil()
230000
>>> cariUSTerkecil2()
['Budi']
>>> carikurang25()
['Ika', 'Budi', 'Chandra', 'Eka', 'Deni', 'Galuh', 'Janto']
>>> ================================ RESTART ================================
>>>
('Data', 9, 'ada dalam Linked List')
('Data', 22, 'tidak ada dalam Linked List')
>>>
```

no5_modul4.py - C:/Users/jainal/Documents/no5_modul4.py (2.7.10)

```python
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(45)
menu = a
a.next = node (9)
a = a.next
a.next = node (17)
a = a.next
a.next = node (23)

menu.cariLinkedList(9)
menu.cariLinkedList(22)
```
Ln: 27 Col: 23

Nomer 6-7

Python 2.7.10 Shell

```
File  Edit  Shell  Debug  Options  Window  Help
Python 2.7.10 (default, May 23 2015, 09:40:32) [MSC v.1500 32 bit (Intel)] on win32
Type "copyright", "credits" or "license()" for more information.
>>> ================================ RESTART ================================
>>>
>>> cariAsal()
Masukkan kota: "klaten"
[]
>>> cariUSTerkecil()
230000
>>> cariUSTerkecil2()
['Budi']
>>> carikurang25()
['Ika', 'Budi', 'Chandra', 'Eka', 'Deni', 'Galuh', 'Janto']
>>> ================================ RESTART ================================
>>>
('Data', 9, 'ada dalam Linked List')
('Data', 22, 'tidak ada dalam Linked List')
>>> ================================ RESTART ================================
>>>
>>> binSe(6)
'Target pada indeks 2'
>>> binSe(20)
False
>>> binSe(10)
False
>>> binSe(11)
False
>>> binSe(9)
False
>>> binSe(14)
'Target pada indeks 6'
>>>
```

No6-7_modul4.py - C:/Users/jainal/Documents/No6-7_modul4.py (2.7.10)

```python
A = [2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22]

#No. 6
def binSe(target):
    low = 0
    high = len(A)

    while low < high:
        mid = (high + low) // 2
        if A[mid] == target:
            return "Target pada indeks " + str(mid)
        elif target < A[mid]:
            high = mid - 1
        else:
            low = mid + 1
    return False

#No. 7
B = [2, 3, 5, 6, 6, 6, 8, 9, 9, 10, 11, 12, 13, 13, 14]
def binSe2(target):
    low = 0
    high = len(B)
    x = []

    while low < high:
        if B[low] == target:
            x.append(low)
            low+=1
        else:
            low+=1
    return x
```
Ln: 31 Col: 12

Nomer 8

```
Python 2.7.10 (default, May 23 2015, 09:40:32) [MSC v.1500 32 bit (Intel)] on win32
Type "copyright", "credits" or "license()" for more information.
>>> ================================ RESTART ================================
>>>
>>> cariAsal()
Masukkan kota: "klaten"
[]
>>> cariUSTerkecil()
230000
>>> cariUSTerkecil2()
['Budi']
>>> carikurang25()
['Ika', 'Budi', 'Chandra', 'Eka', 'Deni', 'Galuh', 'Janto']
>>> ================================ RESTART ================================
>>>
('Data', 9, 'ada dalam Linked List')
('Data', 22, 'tidak ada dalam Linked List')
>>> ================================ RESTART ================================
>>>
>>> binSe(6)
'Target pada indeks 2'
>>> binSe(20)
False
>>> binSe(10)
False
>>> binSe(11)
False
>>> binSe(9)
False
>>> binSe(14)
'Target pada indeks 6'
>>> ================================ RESTART ================================
>>>

>>>
```

```
print
"""Karena menggunakan konsep Big-O. Dimana yang dipakai
adalah rumus O(log n) dengan rincian 1 = 1, 2 = 2, 4 = 3, 10 = 4, 100 = 7, 1000=
Di mana log berasal dari pangkat log berbasis 2. Dengan begitu dapat mengetahui
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!!!
"""
```