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KELAS : H Praktikum AlgoStruk

MODUL 4

NOMOR 1,2,3,4



```
NO1234.py - J:\Project Negara\Praktikum AlgoStruk\Modul4\NO1234.py (3.6.5)
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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 + ', ' + str(self.nim) + '\
            + '. Tinggal di ' + self.kota + '\
            + '. Uang saku Rp ' + str(self.uangSaku) + '\
            + '. 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]

#NO1
def pencarian(list, target):
    target = target
    x = []
    for i in Daftar:
        if i.kota == target:
            x.append(list.index(i))
    print(x)

#NO2
def uangSakuTerkecil(list):
    terkecil = 99999999
    for i in list:
```

Ln: 10 Col: 0

```

#NO2
def uangSakuTerkecil(list):
    terkecil = 99999999
    for i in list:
        if i.uangSaku < terkecil:
            terkecil = i.uangSaku
    return terkecil

#NO3
def uangSakuTerkecilObject(list):
    temp = [list[0]]
    for i in list:
        if i.uangSaku < temp[0].uangSaku:
            temp = [i]
        elif i.uangSaku == temp[0].uangSaku:
            temp.append(i)
    return temp

#NO4
def uangSakuKurangDari250k(list):
    x = []
    for i in list:
        if i.uangSaku < 250000:
            x.append(i)
    return x

```

Ln: 32 Col: 20

NOMOR 5

NO5.py - J:\Project Negara\Praktikum AlgoStruk\Modul4\NO5.py (3.6.5)

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(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)

```

NOMOR 6 DAN 7

 NO67.py - J:\Project Negara\Praktikum AlgoStruk\Modul4\NO67.py (3.6.5)

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

```
#NO6
```

```
def binSe(target):
```

```
    low = 0
```

```
    high = len(A)-1
```

```
    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
```

```
#NO7
```

```
B = [2, 3, 5, 6, 6, 6, 8, 9, 9, 10, 11, 12, 13, 13, 14]
```

```
def binSe2(target):
```

```
    low = 0
```

```
    high = len(B)-1
```

```
    x = []
```

```
    while low < high:
```

```
        if B[low] == target:
```

```
            x.append(low)
```

```
            low+=1
```

```
        else:
```

```
            low+=1
```

```
    return x
```

NOMOR 8

```
NO8.py - J:\Project Negara\Praktikum AlgoStruk\Modul4\NO8.py (3.6.5)
File Edit Format Run Options Window Help

print
"""Karena menggunakan konsep Big-O. Dimana yang dipakai
adalah rumus  $O(\log n)$  dengan rincian  $1 = 1$ ,  $2 = 2$ ,  $4 = 3$ ,  $10 = 4$ ,  $100 = 7$ ,  $1000 = 10$ .
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!!!
"""
```

HASIL

NO1

```
Python 3.6.5 Shell
File Edit Shell Debug Options Window Help
Python 3.6.5 (v3.6.5:f59c0932b4, Mar 28 2018, 17:00:18) [MSC v.1900 64 bit (AMD64)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: J:\Project Negara\Praktikum AlgoStruk\Modul4\NO1234.py =====
>>> pencarian(Daftar, 'Klaten')
[6, 8]
>>> uangSakuTerkecil(Daftar)
230000
>>> uangSakuTerkecilObject(Daftar)
[<__main__.MhsTIF object at 0x000001EAF03AC438>]
>>> uangSakuKurangDari250k(Daftar)
[<__main__.MhsTIF object at 0x000001EAF03AC630>, <__main__.MhsTIF object at 0x000001EAF03AC438>, <__main__.MhsTIF object at 0x000001EAF0429DA0>, <__main__.MhsTIF object at 0x000001EAF0429DD8>, <__main__.MhsTIF object at 0x000001EAF0429E48>, <__main__.MhsTIF object at 0x000001EAF0429E80>, <__main__.MhsTIF object at 0x000001EAF0429EB8>]
>>> |
```

NO2

```
Python 3.6.5 Shell
File Edit Shell Debug Options Window Help
Python 3.6.5 (v3.6.5:f59c0932b4, Mar 28 2018, 17:00:18) [MSC v.1900 64 bit (AMD64)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: J:\Project Negara\Praktikum AlgoStruk\Modul4\NO5.py =====
Data 9 ada dalam Linked List
Data 22 tidak ada dalam Linked List
>>>
```

NO3

```
Python 3.6.5 Shell
File Edit Shell Debug Options Window Help
Python 3.6.5 (v3.6.5:f59c0932b4, Mar 28 2018, 17:00:18) [MSC v.1900 64 bit (AMD64)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: J:\Project Negara\Praktikum AlgoStruk\Modul4\NO67.py =====
>>> binSe(6)
'Target pada indeks 2'
>>> binSe(5)
False
>>> binSe2(6)
[3, 4, 5]
>>> |
```