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NIM : L200180004

Kelas : A

TUGAS PRAKTIKUM ALGORITMA STRUKTUR DATA MODUL 4

No 1.

```
File  Edit  Shell  Debug  Options  Window  Help
Python 3.8.1 (tags/v3.8.1:1b293b6, Dec 18 201
tel)] on win32
Type "help", "copyright", "credits" or "licer
>>>
========== RESTART: C:\Users\kevin\Pictures\
>>> carikotatinggal(Daftar, 'Klaten')
[6, 8]
>>> carikotatinggal(Daftar, 'Surakarta')
[2, 3]
>>>
```

```
File  Edit  Format  Run  Options  Window  Help
class MhsTIF(object):
      def __init__(self,nama,NIM,kota,uangsaku):
            self.nama=nama
            self.NIM=NIM
            self.kotatinggal=kota
            self.uangsaku=uangsaku

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

def carikotatinggal(n,target):
      x=[]
      y=0
      for i in Daftar:
            if i.kotatinggal==target:
                  x.append(y)
            y+=1
      print(x)
```

No. 2

Python 3.8.1 Shell

File Edit Shell Debug Options Win

```
Python 3.8.1 (tags/v3.8.1:1b2
tel)] on win32
Type "help", "copyright", "cr
>>>
========== RESTART: C:/Us
>>> cariTerkecil(Daftar)
230000
>>>
```

tugas2.py - C:/Users/kevin/Pictures/MODUL_4/tugas2.py (3.8.1)

File Edit Format Run Options Window Help

```
class MhsTIF(object):
      def __init__(self,nama,NIM,kota,uangsaku):
            self.nama=nama
            self.NIM=NIM
            self.kotatinggal=kota
            self.uangsaku=uangsaku

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]

def carikotatinggal(n,target):
      x=[]
      y=0
      for i in Daftar:
            if i.kotatinggal==target:
                  x.append(y)
            y+=1
      print(x)

def cariTerkecil(x):
    n=len(x)
    terkecil=x[0].uangsaku
    for i in range(1,n):
        if x[i].uangsaku < terkecil:
            terkecil=x[i].uangsaku
    return terkecil
```

No. 3

Python 3.8.1 Shell

File Edit Shell Debug Options Window Help

```
Python 3.8.1 (tags/v3.8.1:1b293b6, Dec 18 2019, 22:39:24) [M
tel)] on win32
Type "help", "copyright", "credits" or "license()" for more
>>>
============== RESTART: C:/Users/kevin/Pictures/MODUL_4/tuga
>>> cariterkecil(Daftar)
[<__main__.MhsTIF object at 0x03DB9E20>]
>>>
```

tugas3.py - C:/Users/kevin/Pictures/MODUL_4/tugas3.py (3.8.1)

File Edit Format Run Options Window Help

```
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]

def carikotatinggal(n,target):
      x=[]
      y=0
      for i in Daftar:
            if i.kotatinggal==target:
                  x.append(y)
            y+=1
      print(x)

def cariTerkecil(x):
    n=len(x)
    terkecil=x[0].uangsaku
    for i in range(1,n):
        if x[i].uangsaku < terkecil:
            terkecil=x[i].uangsaku
    return terkecil
def cariterkecil(x):
    n=len(x)
    a=[]
    terkecil=x[0].uangsaku
    for i in range(1,n):
        if x[i].uangsaku < terkecil:
            terkecil=x[i].uangsaku
            a.append(x[1])
    return a
```

No. 4

Python 3.8.1 Shell

File Edit Shell Debug Options Window Help

```
Python 3.8.1 (tags/v3.8.1:1b293b6, Dec 18 2019, 22:39:24) [MSC v.1916 32 bit (In
tel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
============== RESTART: C:/Users/kevin/Pictures/MODUL_4/tugas4.py ==============
>>> bawah250(Daftar)
[('Ika', 10, 'Sukoharjo', 240000), ('Budi', 51, 'Sragen', 230000), ('Chandra', 1
8, 'Surakarta', 235000), ('Eka', 4, 'Boyolali', 240000), ('Deni', 13, 'Klaten',
245000), ('Galuh', 5, 'Wonogiri', 245000), ('Janto', 23, 'Klaten', 245000)]
>>>
```

tugas4.py - C:/Users/kevin/Pictures/MODUL_4/tugas4.py (3.8.1)

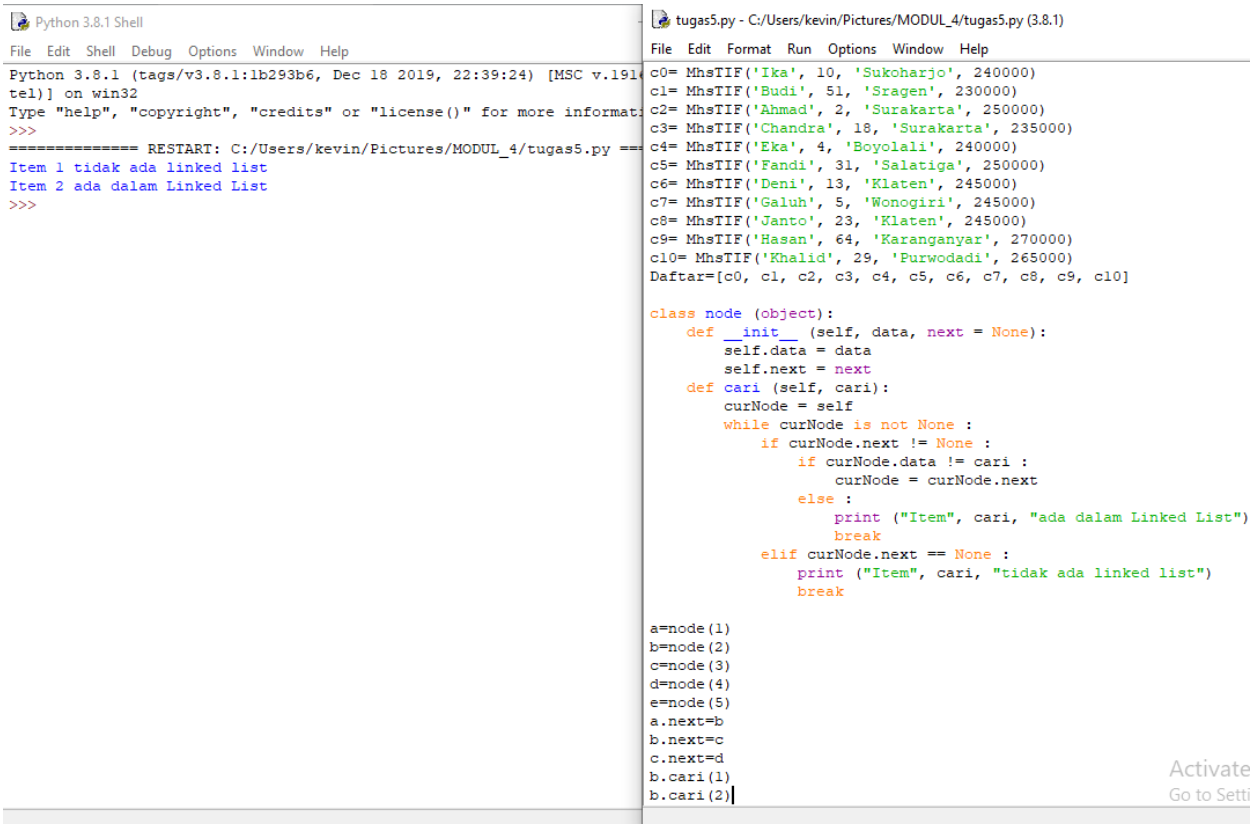
File Edit Format Run Options Window Help

```
class MhsTIF(object):
      def __init__(self,nama,NIM,kota,uangsaku):
            self.nama=nama
            self.NIM=NIM
            self.kotatinggal=kota
            self.uangsaku=uangsaku

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]

def bawah250(Daftar):
      d=[]
      for i in Daftar:
            if i.uangsaku < 250000:
                  d.append((i.nama, i.NIM, i.kotatinggal, i.uangsaku))
      return d
```

No. 5



Python 3.8.1 Shell

File Edit Shell Debug Options Window Help

```
Python 3.8.1 (tags/v3.8.1:1b293b6, Dec 18 2019, 22:39:24) [MSC v.191
tel)] on win32
Type "help", "copyright", "credits" or "license()" for more informat
>>>
============== RESTART: C:/Users/kevin/Pictures/MODUL_4/tugas5.py ===
Item 1 tidak ada linked list
Item 2 ada dalam Linked List
>>>
```

tugas5.py - C:/Users/kevin/Pictures/MODUL_4/tugas5.py (3.8.1)

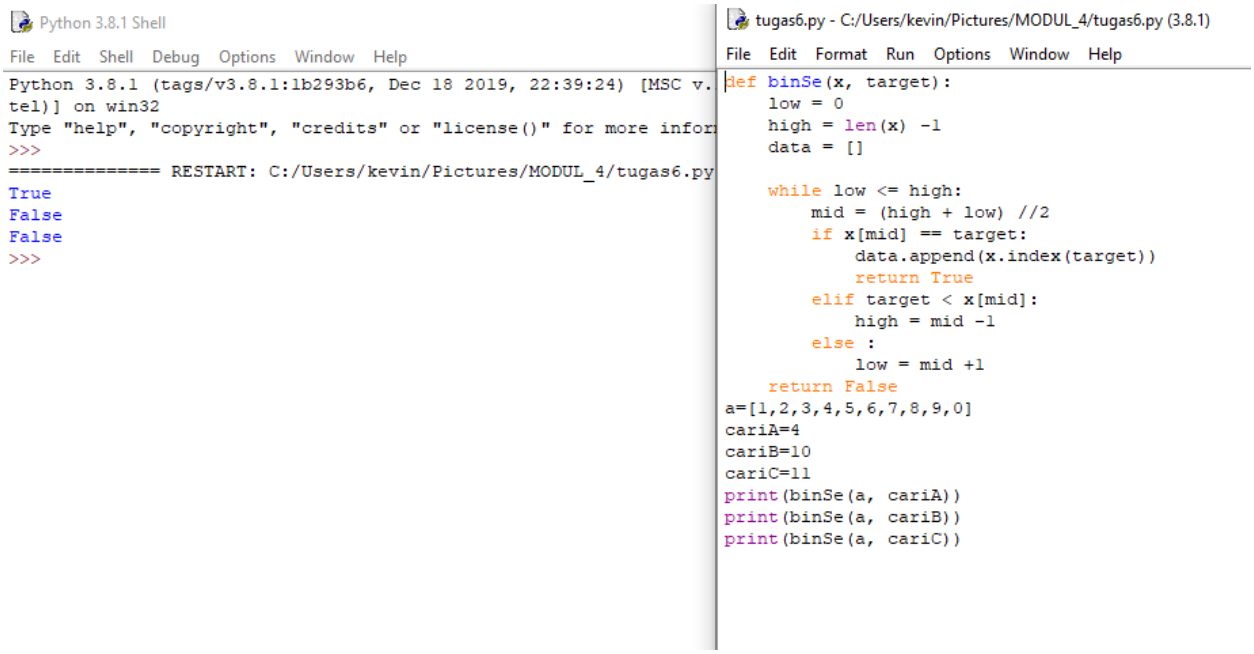
File Edit Format Run Options Window Help

```
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]

class node (object):
    def __init__ (self, data, next = None):
        self.data = data
        self.next = next
    def cari (self, cari):
        curNode = self
        while curNode is not None :
            if curNode.next != None :
                if curNode.data != cari :
                    curNode = curNode.next
                else :
                    print ("Item", cari, "ada dalam Linked List")
                    break
            elif curNode.next == None :
                print ("Item", cari, "tidak ada linked list")
                break

a=node(1)
b=node(2)
c=node(3)
d=node(4)
e=node(5)
a.next=b
b.next=c
c.next=d
b.cari(1)
b.cari(2)
```


No. 6



Python 3.8.1 Shell

File Edit Shell Debug Options Window Help

```
Python 3.8.1 (tags/v3.8.1:1b293b6, Dec 18 2019, 22:39:24) [MSC v.
tel)] on win32
Type "help", "copyright", "credits" or "license()" for more infor
>>>
============== RESTART: C:/Users/kevin/Pictures/MODUL_4/tugas6.py
True
False
False
>>>
```

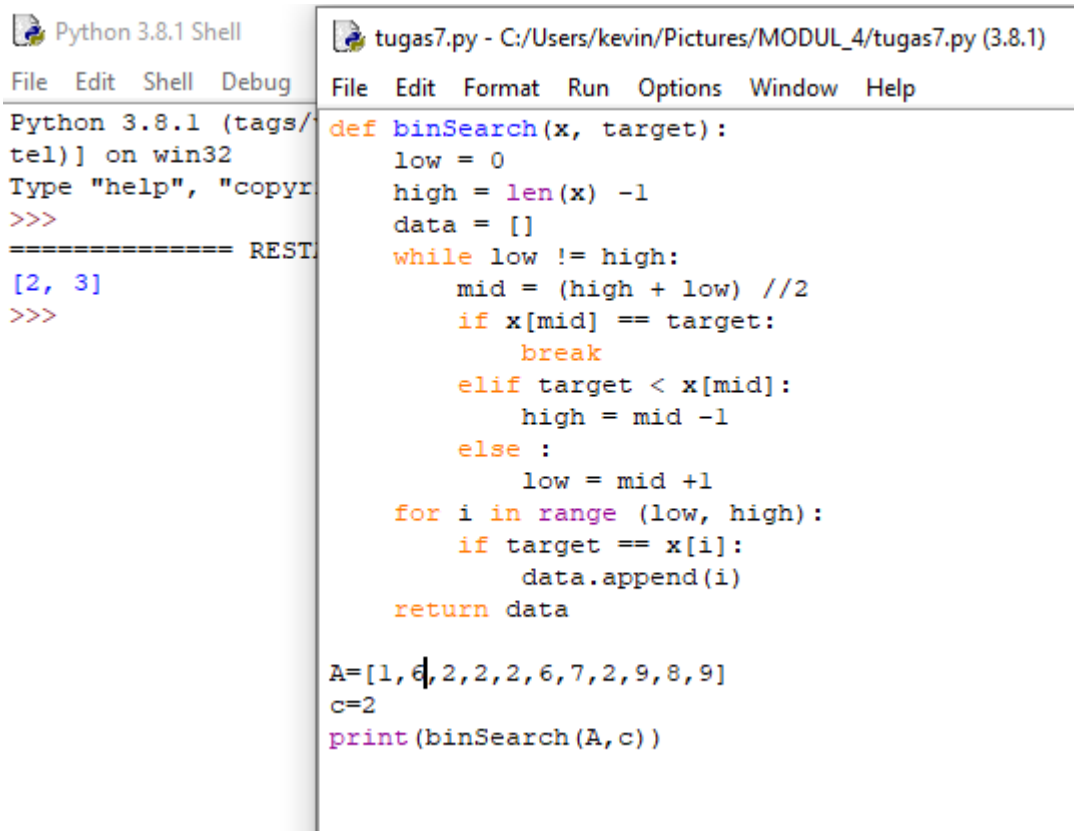
tugas6.py - C:/Users/kevin/Pictures/MODUL_4/tugas6.py (3.8.1)

File Edit Format Run Options Window Help

```
def binSe(x, target):
    low = 0
    high = len(x) -1
    data = []

    while low <= high:
        mid = (high + low) //2
        if x[mid] == target:
            data.append(x.index(target))
            return True
        elif target < x[mid]:
            high = mid -1
        else :
            low = mid +1
    return False
a=[1,2,3,4,5,6,7,8,9,0]
cariA=4
cariB=10
cariC=11
print(binSe(a, cariA))
print(binSe(a, cariB))
print(binSe(a, cariC))
```

No. 7



No 8.

Untuk membuat permainan tebak angka, jika angka yang ditebak diantara 1 dan 100 maksimal jumlah tebakan adalah 7. Klau angka yang harus ditebak berapa diantara 1-1000 maksimal jumlah tebakan nya adalah 10

Jawab

Menggunakan cara barisan geometri Sn =2^n atau menggunakan a =a//2(a=nilai tebakan awal // 2)