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Kelas: A

#### TUGAS PRAKTIKUM ALGORITMA STRUKTUR DATA MODUL 4

# No 1.

```
File Edit Shell Debug Options Window Help File Edit Format Run Options Window Help
Python 3.8.1 (tags/v3.8.1:1b293b6, Dec 18 20] class MhsTIF(object):
tel)] on win32
                                                         def __init__(self,nama,NIM,kota,uangsaku):
Type "help", "copyright", "credits" or "licer
                                                                self.nama=nama
                                                                self.NIM=NIM
======= RESTART: C:\Users\kevin\Pictures\
                                                                self.kotatinggal=kota
>>> carikotatinggal(Daftar, 'Klaten')
                                                                self.uangsaku=uangsaku
                                                  c0= MhsTIF('Ika', 10, 'Sukoharjo', 240000)
>>> carikotatinggal(Daftar, 'Surakarta')
                                                  cl= MhsTIF('Budi', 51, 'Sragen', 240000)
c2= MhsTIF('Ahmad', 2, 'Surakarta', 240000)
[2, 3]
>>>
                                                   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)
                                                   cl0= 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)
                                                                v+=1
                                                          print(x)
```

```
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
>>>

c0= MhsTIF('Ika', 10, c1= MhsTIF('Budi', 51 c2= MhsTIF('Eka', 4, c5= MhsTIF('Fandi', 3 cf= MhsTIF('Fandi', 3
```

```
tugas2.py - C:/Users/kevin/Pictures/MODUL_4/tugas2.py (3.8.1)
File Edit Format Run Options Window Help
      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)
cl= 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)
cl0= MhsTIF('Khalid', 29, 'Purwodadi', 265000)
Daftar=[c0, c1, c2, c3, c4, c5, c6, c7, c8, c9, c10]
def carikotatinggal(n,target):
      x=[]
      v=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
```

```
Python 3.8.1 Shell
                                                                           tugas3.py - C:/Users/kevin/Pictures/MODUL_4/tugas3.py (3.8.1)
File Edit Shell Debug Options Window Help
                                                                           File Edit Format Run Options Window Help
Python 3.8.1 (tags/v3.8.1:1b293b6, Dec 18 2019, 22:39:24) [M
tel)1 on win32
                                                                          c0= MhsTIF('Ika', 10, 'Sukoharjo', 240000)
cl= MhsTIF('Budi', 51, 'Sragen', 230000)
c2= MhsTIF('Ahmad', 2, 'Surakarta', 250000)
Type "help", "copyright", "credits" or "license()" for more
======= RESTART: C:/Users/kevin/Pictures/MODUL 4/tuga
                                                                          c3= MhsTIF('Chandra', 18, 'Surakarta', 235000)
>>> cariterkecil(Daftar)
                                                                           c4= MhsTIF('Eka', 4, 'Boyolali', 240000)
[< main .MhsTIF object at 0x03DB9E20>]
                                                                           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)
                                                                                 print(x)
                                                                           def cariTerkecil(x):
                                                                               n=len(x)
                                                                               terkecil=x[0].uangsaku
                                                                               for i in range(1,n):
                                                                                   if x[i].uangsaku < terkecil:</pre>
                                                                                         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

```
tugas4.py - C:/Users/kevin/Pictures/MODUL_4/tugas4.py (3.8.1)
Python 3.8.1 Shell
                                                                                                                                                                File Edit Format Run Options Window Help
File Edit Shell Debug Options Window Help
                                                                                                                                                                 class MhsTIF(object):
    def __init__(self,nama,NIM,kota,uangsaku):
        self.nama=nama
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.
                                                                                                                                                                                        self.NIM=NIM
                         == RESTART: C:/Users/kevin/Pictures/MODUL_4/tugas4.py ==
                                                                                                                                                                                        self.uangsaku=uangsaku
>>> bawah250(Daftar)
[('Ika', 10, 'Sukoharjo', 240000), ('Budi', 51, 'Sragen', 230000), ('Chandra', 18, 'Surakarta', 235000), ('Eka', 4, 'Boyolali', 240000), ('Deni', 13, 'Klaten', 245000), ('Galuh', 5, 'Wonogiri', 245000), ('Janto', 23, 'Klaten', 245000)]
                                                                                                                                                               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('Fka', 41, 'Boyolali', 240000)
c6= MhsTIF('Bandi', 31, 'Salatiga', 250000)
c7= MhsTIF('Galuh', 5, 'Wonogiri', 245000)
c8= MhsTIF('Galuh', 5, 'Wonogiri', 245000)
c8= MhsTIF('Galuh', 64, 'Karanganyar', 270000)
c10= MhsTIF('Khalid', 29, 'Purwodadi', 265000)
Daftar=[c0, c1, c2, c3, c4, c5, c6, c7, c8, c5, c10]
                                                                                                                                                                 def bawah250(Daftar):
                                                                                                                                                                           d=[]
                                                                                                                                                                           for i in Daftar:
                                                                                                                                                                                       return d
```

```
Python 3.8.1 Shell
                                                                                                         tugas5.pv - C:/Users/kevin/Pictures/MODUL 4/tugas5.pv (3.8.1)
                                                                                                         File Edit Format Run Options Window Help
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
                                                                                                        c0= MhsTIF('Ika', 10, 'Sukoharjo', 240000)
c1= MhsTIF('Budi', 51, 'Sragen', 230000)
c2= MhsTIF('Ahmad', 2, 'Surakarta', 250000)
tel)] on win32
Type "help", "copyright", "credits" or "license()" for more informat:
                                                                                                        c3= MhsTIF('Chandra', 18, 'Surakarta', 235000)
c4= MhsTIF('Eka', 4, 'Boyolali', 240000)
c5= MhsTIF('Fandi', 31, 'Salatiga', 250000)
======= RESTART: C:/Users/kevin/Pictures/MODUL 4/tugas5.py ==
Item 1 tidak ada linked list
Item 2 ada dalam Linked List
                                                                                                        CS= MmSIIF('ranai', 31, 'Salatiga', 29000)

C6= MmSTIF('Deni', 13, 'Klaten', 245000)

C7= MmSTIF('Galuh', 5, 'Wonogiri', 245000)

C8= MmSTIF('Janto', 23, 'Klaten', 245000)

C9= MmSTIF('Hasn', 64, 'Karanganyar', 270000)

C10= MmSTIF('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")
                                                                                                                           elif curNode.next == None :
                                                                                                                                 print ("Item", cari, "tidak ada linked list")
                                                                                                         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
                                                                      tugas6.py - C:/Users/kevin/Pictures/MODUL_4/tugas6.py (3.8.1)
                                                                      File Edit Format Run Options Window Help
File Edit Shell Debug Options Window Help
Python 3.8.1 (tags/v3.8.1:1b293b6, Dec 18 2019, 22:39:24) [MSC v. def binSe(x, target):
tel)] on win32
                                                                          low = 0
                                                                          high = len(x) - 1
Type "help", "copyright", "credits" or "license()" for more infor
                                                                          data = []
>>>
       ====== RESTART: C:/Users/kevin/Pictures/MODUL 4/tugas6.py
True
                                                                          while low <= high:
                                                                              mid = (high + low) //2
False
                                                                               if x[mid] == target:
False
                                                                                  data.append(x.index(target))
555
                                                                                   return True
                                                                               elif target < x[mid]:</pre>
                                                                                  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))
```

```
Python 3.8.1 Shell
                      tugas7.py - C:/Users/kevin/Pictures/MODUL_4/tugas7.py (3.8.1)
File Edit Shell Debug
                     File Edit Format Run Options Window Help
Python 3.8.1 (tags/
                     def binSearch(x, target):
tel)] on win32
                         low = 0
Type "help", "copyr.
                         high = len(x) - l
                          data = []
----- REST
                          while low != high:
[2, 3]
                              mid = (high + low) //2
>>>
                              if x[mid] == target:
                                  break
                              elif target < x[mid]:</pre>
                                  high = mid -1
                              else :
                                  low = mid + l
                          for i in range (low, high):
                              if target == x[i]:
                                  data.append(i)
                          return data
                     A=[1,6,2,2,2,6,7,2,9,8,9]
                     print (binSearch (A,c))
```

### 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)