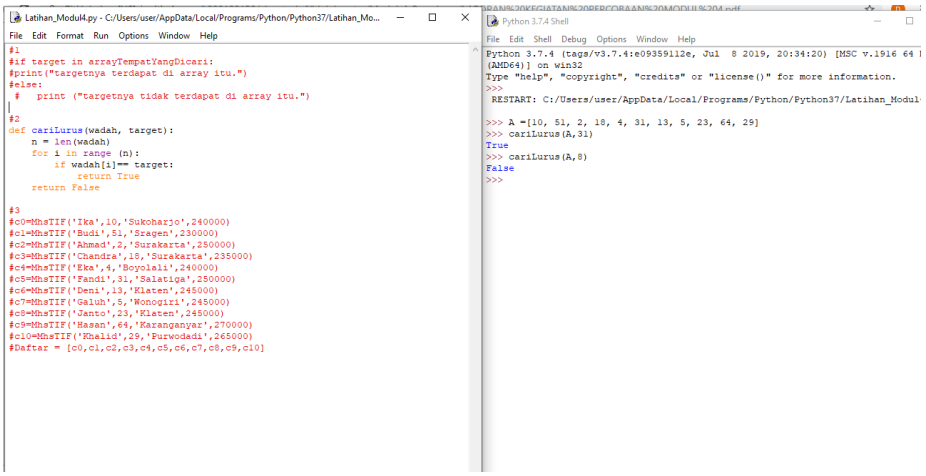
Modul 4

Nama : Damar Fatika Sari

NIM : L200180126

Linier Search



```
#1
#if target in arrayTempatYangDicari:
#print("targetnya terdapat di array itu.")
#else:
 #   print ("targetnya tidak terdapat di array itu.")

#2
def cariLurus(wadah, target):
    n = len(wadah)
    for i in range (n):
        if wadah[i]== target:
            return True
    return False

#3
#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]
```

```
Python 3.7.4 (tags/v3.7.4:e09359112e, Jul  8 2019, 20:34:20) [MSC v.1916 64 b
(AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
 RESTART: C:/Users/user/AppData/Local/Programs/Python/Python37/Latihan_Modul4

>>> A =[10, 51, 2, 18, 4, 31, 13, 5, 23, 64, 29]
>>> cariLurus(A,31)
True
>>> cariLurus(A,8)
False
>>>
```

Pencarian Lurus Objek Buatan Sendiri

```
def cariLurus(wadah, target):
    n = len(wadah)
    for i in range (n):
        if wadah[i]== target:
            return True
    return False


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)
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c9 = MhsTIF("Hasan", 64, "Karanganyar", 270000)
c10 = MhsTIF("Khalid", 29, "Purwodadi", 265000)

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

```
Python 3.7.4 (tags/v3.7.4:e09359112e, Jul  8 2019, 20:34:20) [MSC v.1916 64 b
(AMD64)] on win32
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>>>
 RESTART: C:/Users/user/AppData/Local/Programs/Python/Python37/Latihan_Modul4

>>> A =[10, 51, 2, 18, 4, 31, 13, 5, 23, 64, 29]
>>> cariLurus(A,31)
True
>>> cariLurus(A,8)
False
>>>
 RESTART: C:/Users/user/AppData/Local/Programs/Python/Python37/Latihan_Modul4

>>> cariAsal()
Deni tinggal di Klaten
Janto tinggal di Klaten
>>>
```

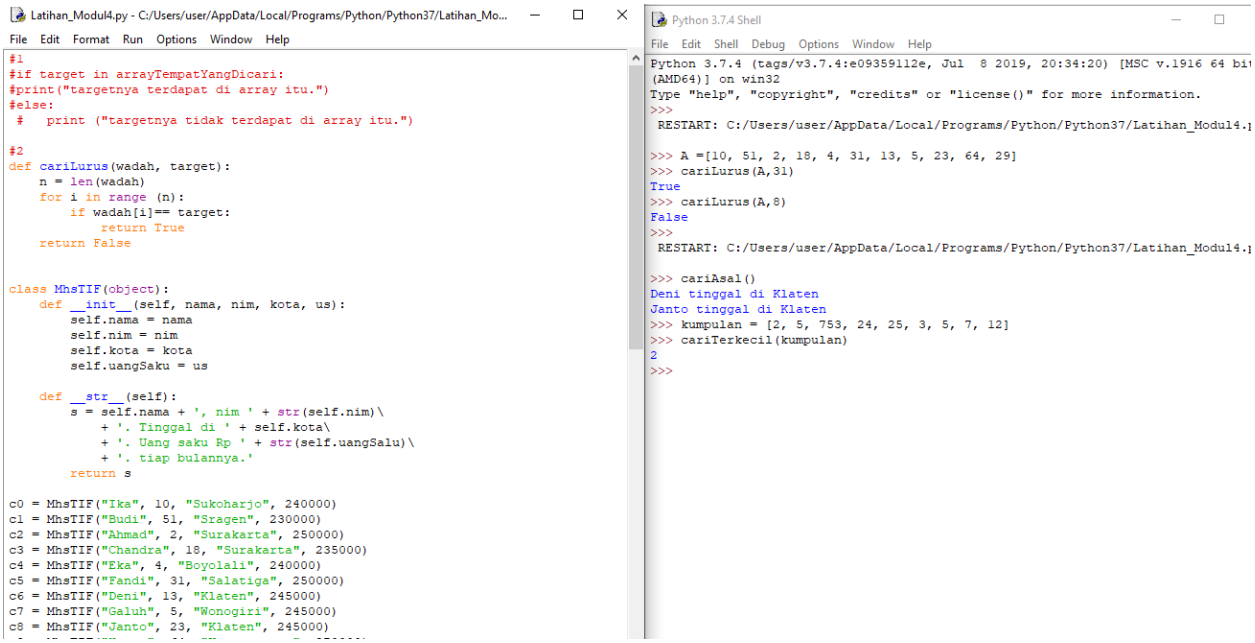
```
def cariTerkecil(kumpulan):
    n = len(kumpulan)
    terkecil = kumpulan[0]
    for i in range(1, n):
        if kumpulan[i] < terkecil:
            terkecil = kumpulan[i]
    return terkecil

kumpulan = [2, 5, 753, 24, 25, 3, 5, 7, 12]
cariTerkecil(kumpulan)
```

```
>>> A =[10, 51, 2, 18, 4, 31, 13, 5, 23, 64, 29]
>>> cariLurus(A,31)
True
>>> cariLurus(A,8)
False
>>>
 RESTART: C:/Users/user/AppData/Local/Programs/Python/Python37/Latihan_Modul4

>>> cariAsal()
Deni tinggal di Klaten
Janto tinggal di Klaten
>>>
```

Pencarian Lurus di Linked List



```
#1
#if target in arrayTempatYangDicari:
#print("targetnya terdapat di array itu.")
#else:
 #   print ("targetnya tidak terdapat di array itu.")

#2
def cariLurus(wadah, target):
    n = len(wadah)
    for i in range (n):
        if wadah[i]== target:
            return True
    return False


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)
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c6 = MhsTIF("Deni", 13, "Klaten", 245000)
c7 = MhsTIF("Galuh", 5, "Wonogiri", 245000)
c8 = MhsTIF("Janto", 23, "Klaten", 245000)
```
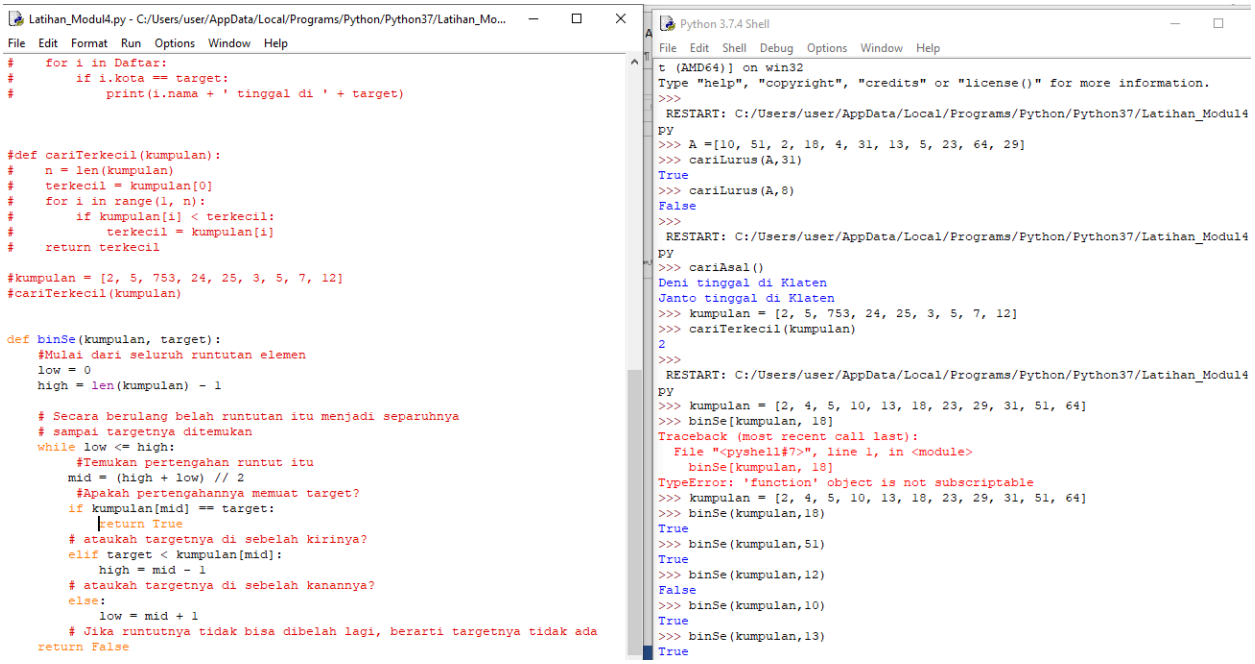

```
Python 3.7.4 (tags/v3.7.4:e09359112e, Jul  8 2019, 20:34:20) [MSC v.1916 64 bit
(AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
 RESTART: C:/Users/user/AppData/Local/Programs/Python/Python37/Latihan_Modul4.p

>>> A =[10, 51, 2, 18, 4, 31, 13, 5, 23, 64, 29]
>>> cariLurus(A,31)
True
>>> cariLurus(A,8)
False
>>>
 RESTART: C:/Users/user/AppData/Local/Programs/Python/Python37/Latihan_Modul4.p

>>> cariAsal()
Deni tinggal di Klaten
Janto tinggal di Klaten
>>> kumpulan = [2, 5, 753, 24, 25, 3, 5, 7, 12]
>>> cariTerkecil(kumpulan)
2
>>>
```

Binary Search



```
#    for i in Daftar:
#        if i.kota == target:
#            print(i.nama + ' tinggal di ' + target)



#def cariTerkecil(kumpulan):
#    n = len(kumpulan)
#    terkecil = kumpulan[0]
#    for i in range(1, n):
#        if kumpulan[i] < terkecil:
#            terkecil = kumpulan[i]
#    return terkecil

#kumpulan = [2, 5, 753, 24, 25, 3, 5, 7, 12]
#cariTerkecil(kumpulan)


def binSe(kumpulan, target):
    #Mulai dari seluruh runtutan elemen
    low = 0
    high = len(kumpulan) - 1

    # Secara berulang belah runtutan itu menjadi separuhnya
    # sampai targetnya ditemukan
    while low <= high:
        #Temukan pertengahan runtut itu
        mid = (high + low) // 2
        #Apakah pertengahannya memuat target?
        if kumpulan[mid] == target:
            return True
        # ataukah targetnya di sebelah kirinya?
        elif target < kumpulan[mid]:
            high = mid - 1
        # ataukah targetnya di sebelah kanannya?
        else:
            low = mid + 1
        # Jika runtutnya tidak bisa dibelah lagi, berarti targetnya tidak ada
    return False
```

```
t (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
 RESTART: C:/Users/user/AppData/Local/Programs/Python/Python37/Latihan_Modul4
py
>>> A =[10, 51, 2, 18, 4, 31, 13, 5, 23, 64, 29]
>>> cariLurus(A,31)
True
>>> cariLurus(A,8)
False
>>>
 RESTART: C:/Users/user/AppData/Local/Programs/Python/Python37/Latihan_Modul4
py
>>> cariAsal()
Deni tinggal di Klaten
Janto tinggal di Klaten
>>> kumpulan = [2, 5, 753, 24, 25, 3, 5, 7, 12]
>>> cariTerkecil(kumpulan)
2
>>>
 RESTART: C:/Users/user/AppData/Local/Programs/Python/Python37/Latihan_Modul4
py
>>> kumpulan = [2, 4, 5, 10, 13, 18, 23, 29, 31, 51, 64]
>>> binSe[kumpulan, 18]
Traceback (most recent call last):
  File "<pyshell#7>", line 1, in <module>
    binSe[kumpulan, 18]
TypeError: 'function' object is not subscriptable
>>> kumpulan = [2, 4, 5, 10, 13, 18, 23, 29, 31, 51, 64]
>>> binSe(kumpulan,18)
True
>>> binSe(kumpulan,51)
True
>>> binSe(kumpulan,12)
False
>>> binSe(kumpulan,10)
True
>>> binSe(kumpulan,13)
True
```