Latihan Modul 4

4.1 Linear Search

```
1 def cariLurus(wadah,target):
2     n=len(wadah)
3     for i in range(n):
4         if wadah[i]==target:
5             return True
6     return False
```

Python 2.7.15 Shell

File Edit Shell Debug Options Window Help

```
Python 2.7.15 (v2.7.15:ca079a3ea3, Apr 30 2018, 16:22:17) [MSC v.1500 32 bit (In
tel)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
======= RESTART: C:/Users/ASUS/Downloads/idlex-1.18/idlex-1.18/4.1.py =======
>>> a=[10,51,2,18,4,31,13,5,23,64,29]
>>> cariLurus(a,31)
True
>>> cariLurus(a,8)
False
```

```
====== RESTART: C:/Users/ASUS/Downloads/idlex-1.18/idlex-1.18/4.1(2).py ======
>>> 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=[c1,c2,c3,c4,c5,c6,c7,c8,c9,c10]
>>> target='Klaten'
>>> for i in daftar:
        if i.kotatinggal == target:
                print(i.nama+ ' tinggal di ' + target)


Deni tinggal di Klaten
Janto tinggal di Klaten
>>>
```

```
1 def cariTerkecil(kumpulan):
2     n=len(kumpulan)
3     terkecil=kumpulan[0]
4     for i in range(1,n):
5         if kumpulan[i] < terkecil:
6             terkecil=kumpulan[i]
7     return terkecil
8
```

Code Browser Ln: 8

```
>>>
===== RESTART: C:/Users/ASUS/Downloads/idlex-1.18/idlex-1.18/terkecil.py =====
>>> a=[9,5,8,3,6,3,6,1]
>>> cariTerkecil(a)
1
>>>
```

```
>>> 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)
>>> def sakuKecil(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

>>> daftar=[c1,c2,c3,c4,c5,c6,c7,c8,c9,c10]
>>> sakuKecil(daftar)
230000
>>> def sakuBesar(x):
        n=len(x)
        terbesar=x[0].uangsaku
        for i in range(1,n):
                if x[i].uangsaku > terbesar:
                        terbesar=x[i].uangsaku
        return terbesar

>>> sakuBesar(daftar)
270000
```

```
>>> bawah250(daftar)
Chandra uang saku = 235000
Eka uang saku = 240000
Deni uang saku = 245000
Galuh uang saku = 245000
Janto uang saku = 245000
>>> def atas250(x):
        n=len(x)
        for i in range(1,n):
                if x[i].uangsaku > 250000:
                        print(x[i].nama + ' uang saku = ' + str(x[i].uangsaku))


>>> atas250(daftar)
Hasan uang saku = 270000
Khalid uang saku = 265000
```

4.2 Binary Search

```
1  def binSe(kumpulan,target):
2      low=0
3      high=len(kumpulan)-1
4      while low <= high:
5          mid=(high+low)//2
6          if kumpulan[mid]==target:
7              return True
8          elif target < kumpulan[mid]:
9              high=mid-1
10         else:
11             low=mid+1
12     return False
```

Python 2.7.15 Shell

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```
>>>
======= RESTART: C:/Users/ASUS/Downloads/idlex-1.18/idlex-1.18/4.2.py =======
>>> a=[2,4,5,10,13,18,23,29,31,51,64]
>>> binSe(a, 10)
True
>>> binSe(a, 64)
True
>>> binSe(a, 69)
False
```

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