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## 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  
7
```

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 (Intel)] 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].uang_saku > 250000:
            print(x[i].nama + ' uang saku = ' + str(x[i].uang_saku))

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

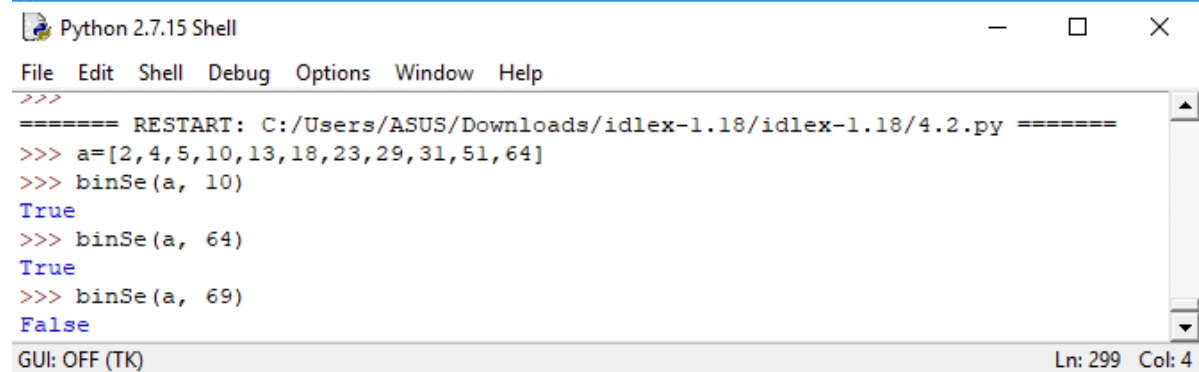
```

## 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

```



The screenshot shows a Python 2.7.15 Shell window with a menu bar (File, Edit, Shell, Debug, Options, Window, Help) and a status bar (GUI: OFF (TK), Ln: 299 Col: 4). The shell displays the following code and output:

```

>>>
===== 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

```