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## LATIHAN

### 4.1 Linear Search

```
Python 3.8.2 Shell
File Edit Shell Debug Options Window Help
Python 3.8.2 (tags/v3.8.2:7b3ab59, Feb 25 2020, 22:45:29) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: E:/TUGAS TUGAS KULIAH/SEMESTER 4/Praktikum Algoritma Struktur data/MODUL- 04/Latihan/4.1.py
>>> A = [10, 51, 2, 18, 4, 31, 13, 5, 23, 64, 29]
>>> cariLurus(A, 31)
True
>>> cariLurus(A, 8)
False
>>>
= RESTART: E:/TUGAS TUGAS KULIAH/SEMESTER 4/Praktikum Algoritma Struktur data/MODUL- 04/Latihan/4.1.py
Denitnggal diKlaten
Jantotnggal diKlaten
>>>

4.1.py - E:/TUGAS TUGAS KULIAH/SEMESTER 4/Praktikum Algoritma Struktur data/MODUL- ...
File Edit Format Run Options Window Help
def cariLurus(wadah, target):
    n = len(wadah)
    for i in range(n):
        if wadah[i] == target:
            return True
    return False

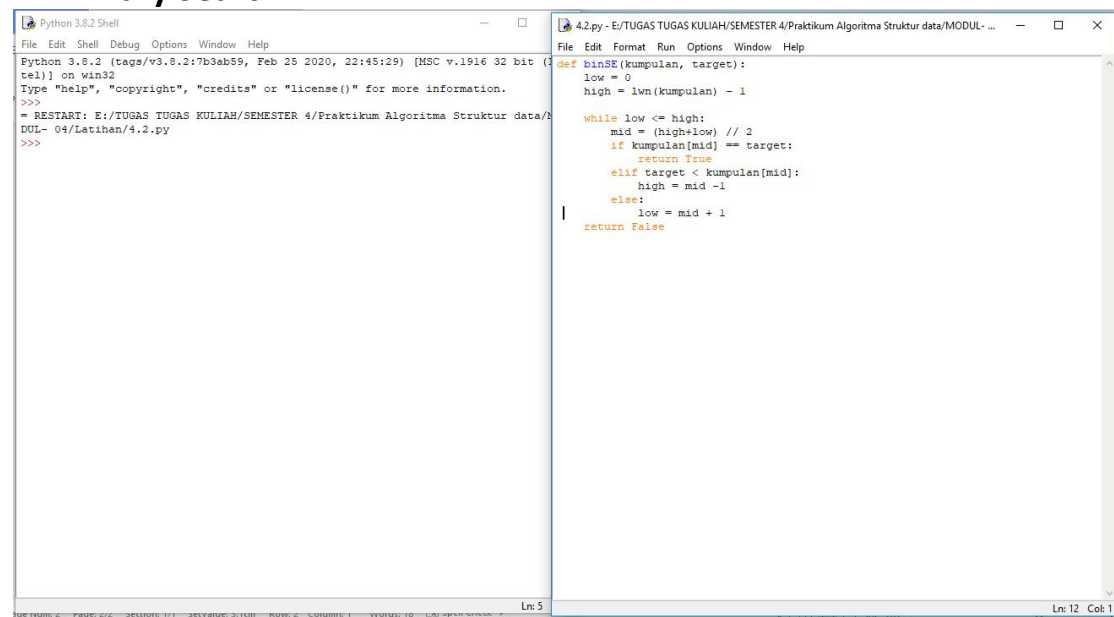
class Manusia(object):
    """Class manusia dengan inisiasi 'nama'"""
    keadaan = 'lapar'
    def __init__(self, nama):
        self.nama = nama
    def ucapSalam(self):
        print("Halo nama: ", self.nama)
    def makan(self, s):
        print("saya baru saja makan ", s)
        self.keadaan = 'kenyang'
    def olah(self, k):
        print("saya baru saja latihan", k)
        self.keadaan = 'lapar'
    def kali(self, n):
        return n*2

class mahasiswa(Manusia):
    """Class Mahasiswa yang dibangun dai class Manusia"""
    def __init__(self, nama, NIM, kota, us):
        self.nama = nama
        self.NIM = NIM
        self.kotaTinggal = kota
        self.uang = us
    def __str__(self):
        s = self.nama + ', NIM ' + str(self.NIM) \
            + '. tinggal di ' + self.kotaTinggal \
            + '. uang saku Rp ' + str(self.uang) \
            + '. tiap bulan'
        return s
class MhsTIF(mahasiswa):
    def __init__(self, nama, NIM, kota, us):
        self.nama = nama
        self.NIM = NIM
        self.kotaTinggal = kota
        self.uang = us
```

```
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>>>

4.1.py - E:/TUGAS TUGAS KULIAH/SEMESTER 4/Praktikum Algoritma Struktur data/MODUL- ...
File Edit Format Run Options Window Help
self.NIM = NIM
self.kotaTinggal = kota
self.uang = us
def __str__(self):
    s = self.nama + ', NIM ' + str(self.NIM) \
        + '. tinggal di ' + self.kotaTinggal \
        + '. uang saku Rp ' + str(self.uang) \
        + '. tiap bulan'
    return s
class MhsTIF(mahasiswa):
    def __init__(self, nama, NIM, kota, us):
        self.nama = nama
        self.NIM = NIM
        self.kotaTinggal = kota
        self.uang = us
    def __str__(self):
        s = self.nama + ', NIM ' + str(self.NIM) \
            + '. tinggal di ' + self.kotaTinggal \
            + '. uang saku Rp ' + str(self.uang) \
            + '. tiap bulan'
        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)
c6 = MhsTIF('Deni', 13, 'Klaten', 245000)
c7 = MhsTIF('Galuh', 5, 'Monongiri', 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]
target = 'Klaten'
for i in Daftar:
    if i.kotaTinggal == target:
        print(i.nama + ' tinggal di ' + target)
```

## 4.2 Binary Search



The image shows two windows from a Windows environment. The left window is a Python 3.8.2 Shell, and the right window is a Python script editor.

**Python 3.8.2 Shell:**

```
Python 3.8.2 (tags/v3.8.2:7b3ab59, Feb 25 2020, 22:45:29) [MSC v.1916 32 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: E:/TUGAS TUGAS KULIAH/SEMESTER 4/Praktikum Algoritma Struktur data/Modul 04/Latihan/4.2.py
>>>
```

**Python Script Editor (4.2.py):**

```
def binSE(kumpulan, target):
    low = 0
    high = len(kumpulan) - 1

    while low <= high:
        mid = (high+low) // 2
        if kumpulan[mid] == target:
            return True
        elif target < kumpulan[mid]:
            high = mid - 1
        else:
            low = mid + 1
    return False
```

The status bar at the bottom of the script editor shows "Ln: 12 Col: 1".