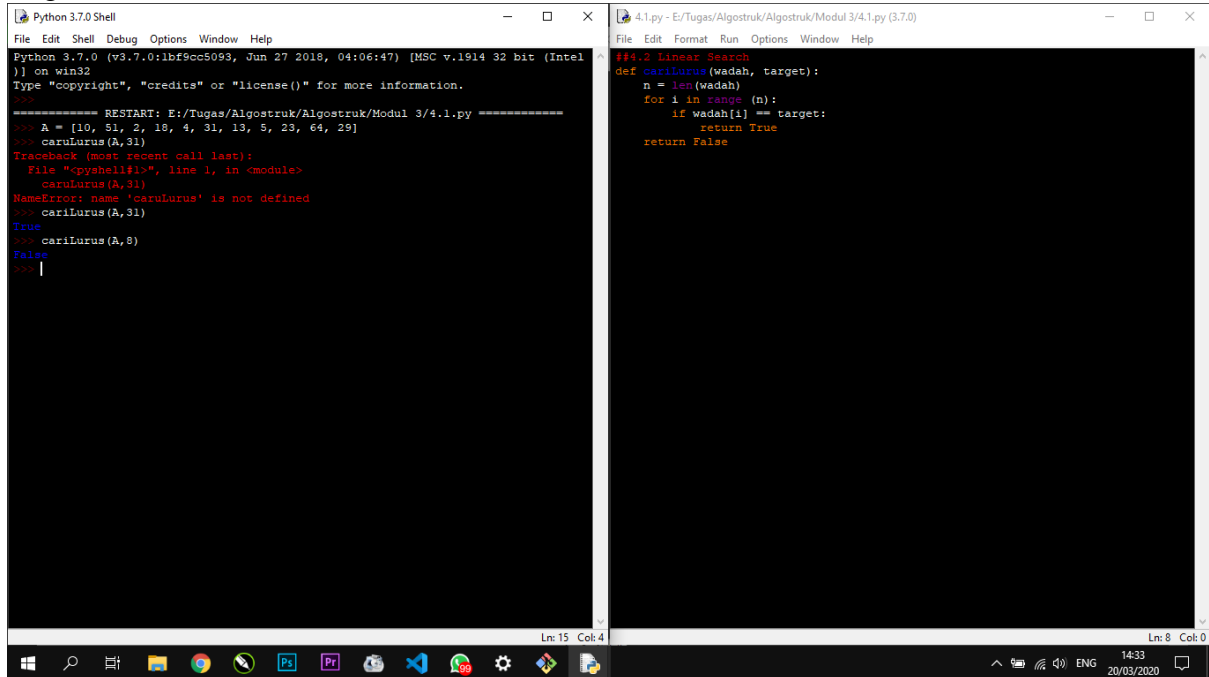


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MODUL 4

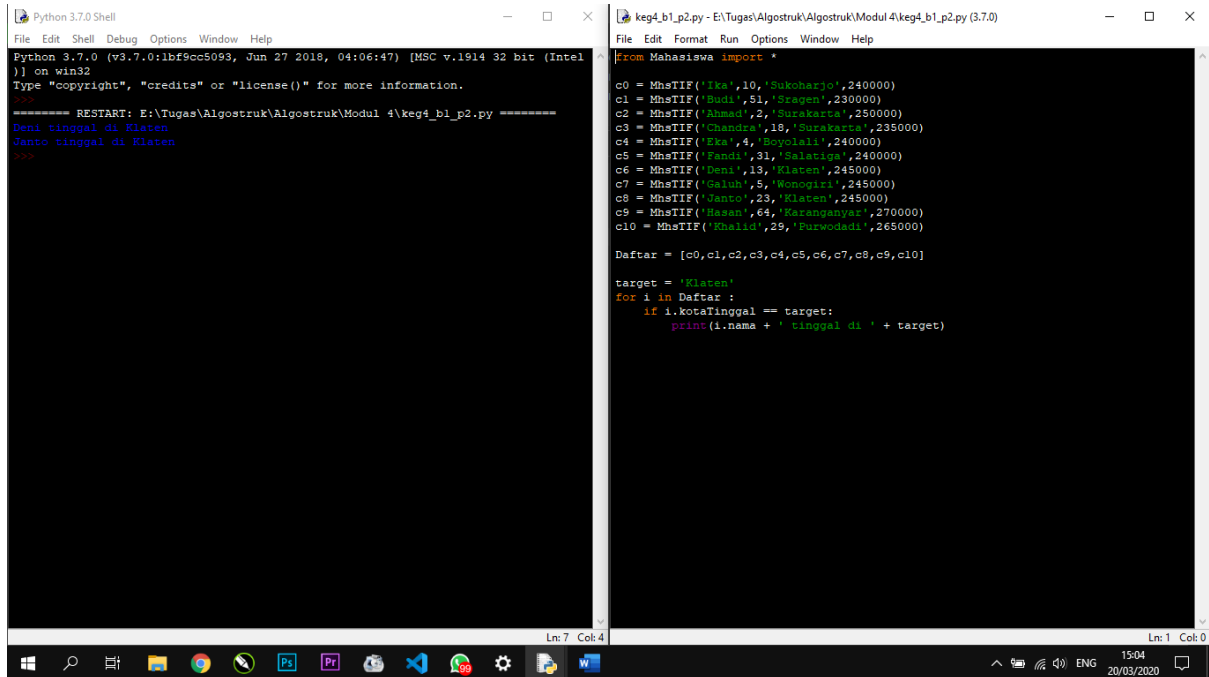
Kegiatan 4.1



The screenshot shows two windows from a Windows 10 desktop. The left window is a 'Python 3.7.0 Shell' with a menu bar (File, Edit, Shell, Debug, Options, Window, Help). It displays the output of a Python script execution, showing a 'NameError: name 'carulurus' is not defined' for the second call to 'carulurus(A, 31)'. The right window is a script editor titled '4.1.py - E:\Tugas\Algostruk\Algostruk\Modul 3\4.1.py (3.7.0)' with a menu bar (File, Edit, Format, Run, Options, Window, Help). It contains a function definition for 'def carilurus(wadah, target):' which implements a linear search algorithm.

```
Python 3.7.0 Shell
File Edit Shell Debug Options Window Help
Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2018, 04:06:47) [MSC v.1914 32 bit (Intel)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: E:\Tugas\Algostruk\Algostruk\Modul 3\4.1.py =====
>>> A = [10, 51, 2, 18, 4, 31, 13, 5, 23, 64, 29]
>>> carulurus(A, 31)
Traceback (most recent call last):
  File "<pyshell#1>", line 1, in <module>
    carulurus(A, 31)
NameError: name 'carulurus' is not defined
>>> carilurus(A, 31)
True
>>> carilurus(A, 8)
False
>>> |

4.1.py - E:\Tugas\Algostruk\Algostruk\Modul 3\4.1.py (3.7.0)
File Edit Format Run Options Window Help
##4.2 Linear Search
def carilurus(wadah, target):
    n = len(wadah)
    for i in range(n):
        if wadah[i] == target:
            return True
    return False
```



The screenshot shows two windows from a Windows 10 desktop. The left window is a 'Python 3.7.0 Shell' with a menu bar (File, Edit, Shell, Debug, Options, Window, Help). It displays the output of a Python script execution, showing 'Deni tinggal di Klaten' and 'Janto tinggal di Klaten'. The right window is a script editor titled 'keg4_b1_p2.py - E:\Tugas\Algostruk\Algostruk\Modul 4\keg4_b1_p2.py (3.7.0)' with a menu bar (File, Edit, Format, Run, Options, Window, Help). It contains a list of students and a search for 'Klaten'.

```
Python 3.7.0 Shell
File Edit Shell Debug Options Window Help
Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2018, 04:06:47) [MSC v.1914 32 bit (Intel)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: E:\Tugas\Algostruk\Algostruk\Modul 4\keg4_b1_p2.py =====
Deni tinggal di Klaten
Janto tinggal di Klaten
>>>

keg4_b1_p2.py - E:\Tugas\Algostruk\Algostruk\Modul 4\keg4_b1_p2.py (3.7.0)
File Edit Format Run Options Window Help
from Mahasiswa import *

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, 'Bojoleali', 240000)
c5 = MhsTIF('Fandi', 31, 'Salatiga', 240000)
c6 = MhsTIF('Deni', 13, 'Klaten', 245000)
c7 = MhsTIF('Galuh', 5, 'Wonogiri', 245000)
c8 = MhsTIF('Janto', 23, 'Klaten', 245000)
c9 = MhsTIF('Hasan', 64, 'Kacamangyan', 270000)
c10 = MhsTIF('Kholid', 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.name + ' tinggal di ' + target)
```

```
Python 3.7.0 Shell
File Edit Shell Debug Options Window Help
Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2018, 04:06:47) [MSC v.1914 32 bit (Intel
)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: E:\Tugas\Algostruk\Algostruk\Modul 4\keg4_b1_p3.py =====
Uang saku terkecil:
('Budi', 230000)
#####
Uang saku terbesar:
('Hasan', 270000)
#####
Uang saku <250 ribu:
['Ika', 'Budi', 'Chandra', 'Eka', 'Fandi', 'Deni', 'Galuh', 'Janto']
#####
Uang saku >250 ribu:
['Ahmad', 'Hasan', 'Khalid']
#####
>>>

keg4_b1_p3.py - E:\Tugas\Algostruk\Algostruk\Modul 4\keg4_b1_p3.py (3.7.0)
File Edit Format Run Options Window Help
from keg4_b1_p2 import *

#Mencari nilai terkecil pada array yang tidak urut
def cariTerkecil(kumpulan):
    n = len(kumpulan)
    #anggap item pertama adalah yang terkecil
    terkecil = kumpulan[0]
    #tentukan apakah item lain lebih kecil
    for i in range(1,n):
        if kumpulan[i] < terkecil:
            terkecil = kumpulan[i]

    return terkecil #kembalikan yang terkecil

#Uang saku terkecil
def kecil(Daftar):
    minim = Daftar[0].uangSaku
    for i in Daftar:
        if i.uangSaku < minim:
            minim = i.uangSaku
            if i.uangSaku == minim:
                nama = i.nama
    return nama, minim
print("Uang saku terkecil: ")
print(kecil(Daftar))
print("#####")

#uang saku terbesar
def besar(Daftar):
    maxim = Daftar[0].uangSaku
    for i in Daftar:
        if i.uangSaku > maxim:
            maxim = i.uangSaku
            if i.uangSaku == maxim:
                nama = i.nama
    return nama, maxim
print("Uang saku terbesar: ")
print(besar(Daftar))
print("#####")

#uang saku <250 ribu

nama = i.nama
return nama, minim
print("Uang saku terkecil: ")
print(kecil(Daftar))
print("#####")

#uang saku terbesar
def besar(Daftar):
    maxim = Daftar[0].uangSaku
    for i in Daftar:
        if i.uangSaku > maxim:
            maxim = i.uangSaku
            if i.uangSaku == maxim:
                nama = i.nama
    return nama, maxim
print("Uang saku terbesar: ")
print(besar(Daftar))
print("#####")

#uang saku <250 ribu
def kurang(Daftar):
    a = []
    for i in Daftar:
        if i.uangSaku < 250000:
            a.append(i.nama)
    return a
print("Uang saku <250 ribu: ")
print(kurang(Daftar))
print("#####")

#uang saku > 250 ribu
def lebih(Daftar):
    a = []
    for i in Daftar:
        if i.uangSaku >= 250000:
            a.append(i.nama)
    return a
print("Uang saku >250 ribu: ")
print(lebih(Daftar))
print("#####")

Ln: 17 Col: 4
Ln: 31 Col: 20

Python 3.7.0 Shell
File Edit Shell Debug Options Window Help
Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2018, 04:06:47) [MSC v.1914 32 bit (Intel
)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: E:\Tugas\Algostruk\Algostruk\Modul 4\keg4_b1_p3.py =====
Uang saku terkecil:
('Budi', 230000)
#####
Uang saku terbesar:
('Hasan', 270000)
#####
Uang saku <250 ribu:
['Ika', 'Budi', 'Chandra', 'Eka', 'Fandi', 'Deni', 'Galuh', 'Janto']
#####
Uang saku >250 ribu:
['Ahmad', 'Hasan', 'Khalid']
#####
>>>

keg4_b1_p3.py - E:\Tugas\Algostruk\Algostruk\Modul 4\keg4_b1_p3.py (3.7.0)
File Edit Format Run Options Window Help
nama = i.nama
return nama, minim
print("Uang saku terkecil: ")
print(kecil(Daftar))
print("#####")

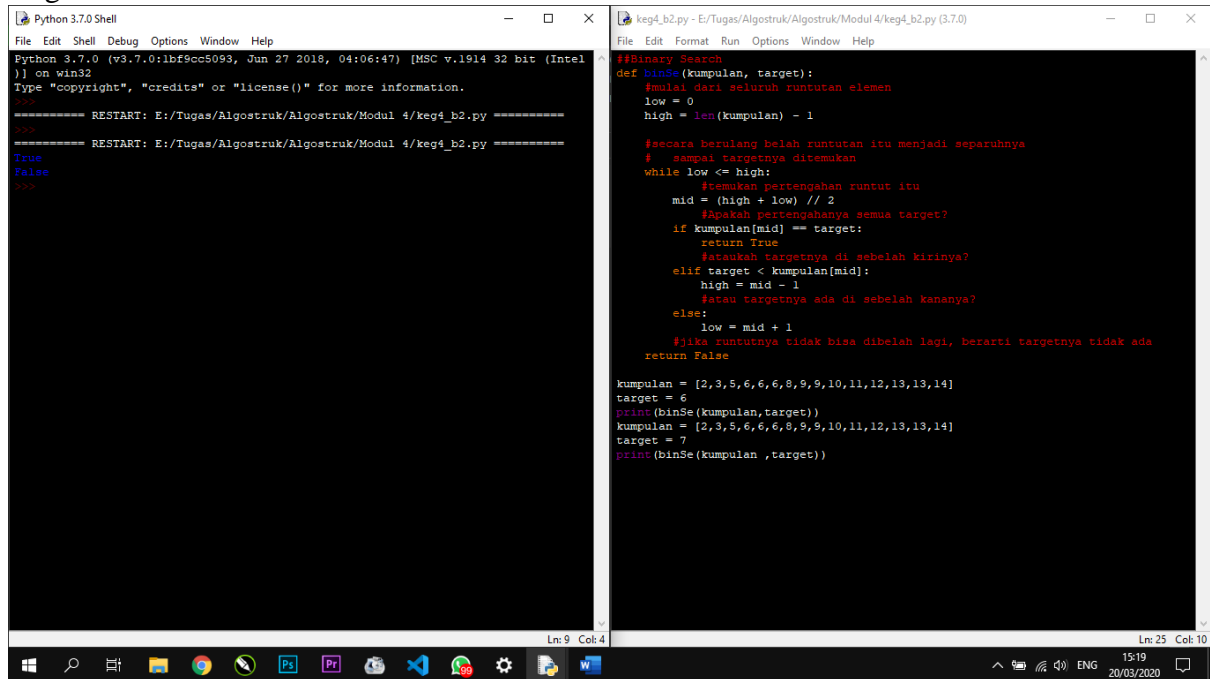
#uang saku terbesar
def besar(Daftar):
    maxim = Daftar[0].uangSaku
    for i in Daftar:
        if i.uangSaku > maxim:
            maxim = i.uangSaku
            if i.uangSaku == maxim:
                nama = i.nama
    return nama, maxim
print("Uang saku terbesar: ")
print(besar(Daftar))
print("#####")

#uang saku <250 ribu
def kurang(Daftar):
    a = []
    for i in Daftar:
        if i.uangSaku < 250000:
            a.append(i.nama)
    return a
print("Uang saku <250 ribu: ")
print(kurang(Daftar))
print("#####")

#uang saku > 250 ribu
def lebih(Daftar):
    a = []
    for i in Daftar:
        if i.uangSaku >= 250000:
            a.append(i.nama)
    return a
print("Uang saku >250 ribu: ")
print(lebih(Daftar))
print("#####")

Ln: 17 Col: 4
Ln: 31 Col: 20
```

Kegiatan 4.2



```
Python 3.7.0 Shell
File Edit Shell Debug Options Window Help
Python 3.7.0 (w3.7.0:1bf9cc5093, Jun 27 2018, 04:06:47) [MSC v.1914 32 bit (Intel
)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: E:/Tugas/Algostruk/Algostruk/Modul 4/keq4_b2.py =====
>>>
True
False
>>>

keq4_b2.py - E:/Tugas/Algostruk/Algostruk/Modul 4/keq4_b2.py (3.7.0)
File Edit Format Run Options Window Help
#Binary Search
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 semua target?
        if kumpulan[mid] == target:
            return True
        #atau targetnya di sebelah kirinya?
        elif target < kumpulan[mid]:
            high = mid - 1
        #atau targetnya ada di sebelah kananya?
        else:
            low = mid + 1
        #jika runtutnya tidak bisa dibelah lagi, berarti targetnya tidak ada
    return False

kumpulan = [2,3,5,6,6,6,8,9,9,10,11,12,13,13,14]
target = 6
print(binSe(kumpulan,target))
kumpulan = [2,3,5,6,6,6,8,9,9,10,11,12,13,13,14]
target = 7
print(binSe(kumpulan ,target))
```