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Kelas : D

Tugas Modul 4

No.1

```
no1.py - E:\Document dfr\KULIAHH\Semester 4\Prak Algotruk\Modul_4\no1.py (3.7.0)
File Edit Format Run Options Window Help

class MhsTif(object):
    def __init__(self, nama, nim, kota, uangsaku):
        self.nama = nama
        self.nim = nim
        self.kotaTinggal = kota
        self.uangSaku = uangsaku

c0 = MhsTif("diah", 12, "Sragen", 240000)
c1 = MhsTif("siwi", 41, "Tegal", 230000)
c2 = MhsTif("amanda", 8, "Surakarta", 250000)
c3 = MhsTif("Chandra", 17, "Magelang", 235000)
c4 = MhsTif("brian", 62, "Boyolali", 240000)
c5 = MhsTif("nisa", 51, "Salatiga", 250000)
c6 = MhsTif("fandi", 15, "Klaten", 245000)
c7 = MhsTif("fauzi", 64, "Wonogiri", 245000)
c8 = MhsTif("putri", 43, "Klaten", 245000)
c9 = MhsTif("nimas", 74, "Karanganyar", 270000)
c10 = MhsTif("viola", 24, "Purwodadi", 265000)

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

def cariKotaTinggal(list, target):
    a = []
    for i in list:
        if i.kotaTinggal == target:
            a.append(list.index(i))
    return a

a = cariKotaTinggal(Daftar, "Klaten")
b = cariKotaTinggal(Daftar, "Sukoharjo")
c = cariKotaTinggal(Daftar, "Sragen")
print(a)
print(b)
print(c)

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:\Document dfr\KULIAHH\Semester 4\Prak Algotruk\Modul_4\no1.py =
>>>
[6, 8]
[]
[0]
>>>
```

No.2

```
no2.py - E:\Document dfr\KULIAHH\Semester 4\Prak Algotruk\Modul_4\no2.py (3.7.0)
File Edit Format Run Options Window Help

class MhsTif(object):
    def __init__(self, nama, nim, kota, uangsaku):
        self.nama = nama
        self.nim = nim
        self.kotaTinggal = kota
        self.uangSaku = uangsaku

c0 = MhsTif("diah", 12, "Sragen", 240000)
c1 = MhsTif("siwi", 41, "Tegal", 230000)
c2 = MhsTif("amanda", 8, "Surakarta", 250000)
c3 = MhsTif("Chandra", 17, "Magelang", 235000)
c4 = MhsTif("brian", 62, "Boyolali", 240000)
c5 = MhsTif("nisa", 51, "Salatiga", 250000)
c6 = MhsTif("fandi", 15, "Klaten", 245000)
c7 = MhsTif("fauzi", 64, "Wonogiri", 245000)
c8 = MhsTif("putri", 43, "Klaten", 245000)
c9 = MhsTif("nimas", 74, "Karanganyar", 270000)
c10 = MhsTif("viola", 24, "Purwodadi", 265000)

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

def cariUangSakuTerkecil(list):
    nama = []
    temp = list[0].uangSaku
    for i in list[1:]:
        if i.uangSaku < temp:
            temp = i.uangSaku
            nama = i.nama
    return nama, temp

a = cariUangSakuTerkecil(Daftar)
print(a)

Python 3.7.0 Shell
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Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2018, 04:06:47) [MSC v.1914 32 bit (Intel)] on win32
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>>>
= RESTART: E:\Document dfr\KULIAHH\Semester 4\Prak Algotruk\Modul_4\no2.py =
('siwi', 230000)
>>>
```

No.3

```
no3.py - E:\Document dfr\KULIAHH\Semester 4\Prak Algostruk\Modul_4\no3.py (3.7.0)
File Edit Format Run Options Window Help

class MhsTif(object):
    def __init__(self, nama, nim, kota, uangsaku):
        self.nama = nama
        self.nim = nim
        self.kotaTinggal = kota
        self.uangSaku = uangsaku

c0 = MhsTif("diah", 12, "Sragen", 240000)
c1 = MhsTif("siwi", 41, "Tegal", 230000)
c2 = MhsTif("amanda", 8, "Surakarta", 250000)
c3 = MhsTif("Chandra", 17, "Magelang", 235000)
c4 = MhsTif("brian", 62, "Boyolali", 240000)
c5 = MhsTif("nisa", 51, "Salatiga", 250000)
c6 = MhsTif("fandi", 15, "Klaten", 245000)
c7 = MhsTif("fauzi", 64, "Wonogiri", 245000)
c8 = MhsTif("putri", 43, "Klaten", 245000)
c9 = MhsTif("nimas", 74, "Karanganyar", 270000)
c10 = MhsTif("viola", 24, "Purwodadi", 265000)

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

def cariUangSakuTerkecilObject(list):
    temp = [list[0]]
    for i in list[1:]:
        if i.uangSaku < temp[0].uangSaku:
            temp.append(i.nama)
    return temp

a = cariUangSakuTerkecilObject(Daftar)
print(a)

Python 3.7.0 Shell
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Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2018, 04:06:47) [MSC v.1914 32 bit (Intel)] on win32
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>>>
= RESTART: E:\Document dfr\KULIAHH\Semester 4\Prak Algostruk\Modul_4\no3.py =
[<__main__.MhsTif object at 0x039D2C30>, 'siwi', 'Chandra']
>>>
```

No.4

```
no4.py - E:\Document dfr\KULIAHH\Semester 4\Prak Algostruk\Modul_4\no4.py (3.7.0)
File Edit Format Run Options Window Help

class MhsTif(object):
    def __init__(self, nama, nim, kota, uangsaku):
        self.nama = nama
        self.nim = nim
        self.kotaTinggal = kota
        self.uangSaku = uangsaku

c0 = MhsTif("diah", 12, "Sragen", 240000)
c1 = MhsTif("siwi", 41, "Tegal", 230000)
c2 = MhsTif("amanda", 8, "Surakarta", 250000)
c3 = MhsTif("Chandra", 17, "Magelang", 235000)
c4 = MhsTif("brian", 62, "Boyolali", 240000)
c5 = MhsTif("nisa", 51, "Salatiga", 250000)
c6 = MhsTif("fandi", 15, "Klaten", 245000)
c7 = MhsTif("fauzi", 64, "Wonogiri", 245000)
c8 = MhsTif("putri", 43, "Klaten", 245000)
c9 = MhsTif("nimas", 74, "Karanganyar", 270000)
c10 = MhsTif("viola", 24, "Purwodadi", 265000)

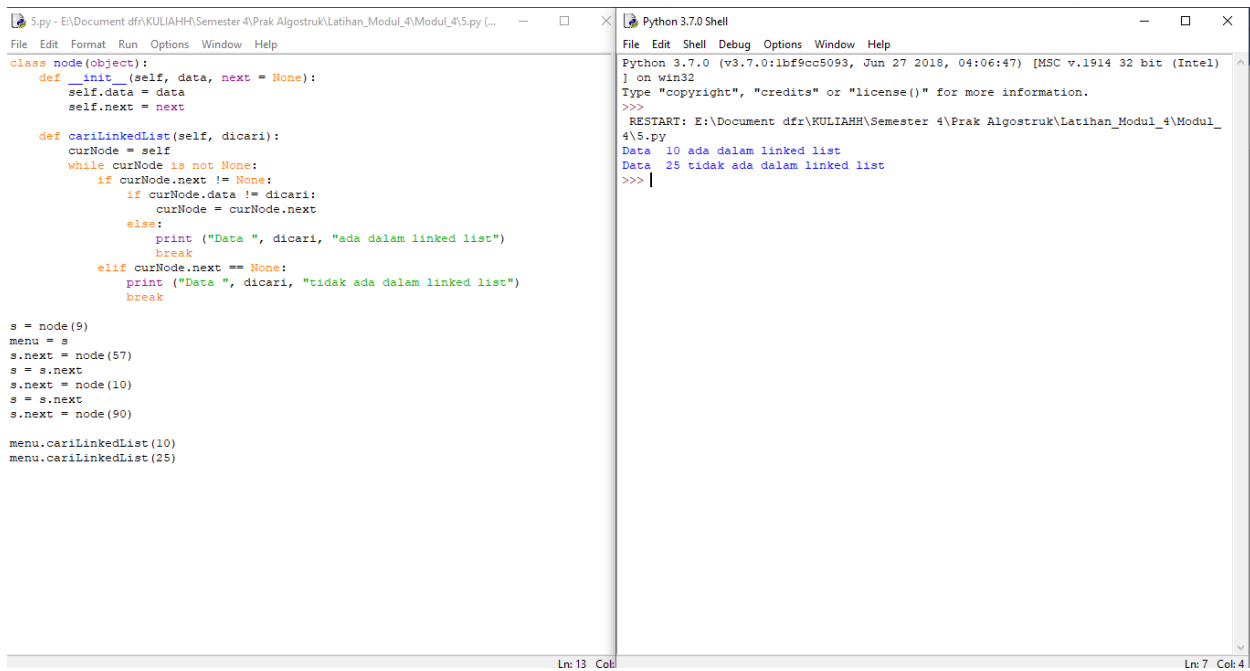
Daftar = [c0, c1, c2, c3, c4, c5, c6, c7, c8, c9, c10]

def cariUangSakuKurang250k(list):
    temp = []
    for i in list:
        if i.uangSaku < 250000:
            temp.append((i.nama, i.nim, i.kotaTinggal, i.uangSaku))
    for i in temp:
        print(i)

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
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>>>
= RESTART: E:\Document dfr\KULIAHH\Semester 4\Prak Algostruk\Modul_4\no4.py =
>>> cariUangSakuKurang250k(Daftar)
('diah', 12, 'Sragen', 240000)
('siwi', 41, 'Tegal', 230000)
('Chandra', 17, 'Magelang', 235000)
('brian', 62, 'Boyolali', 240000)
('fandi', 15, 'Klaten', 245000)
('fauzi', 64, 'Wonogiri', 245000)
('putri', 43, 'Klaten', 245000)
>>>
```

No. 5



The screenshot shows a Python 3.7.0 IDE with two windows. The left window displays a Python script for a linked list. The right window shows the Python Shell with the output of the script.

```
class node(object):
    def __init__(self, data, next = None):
        self.data = data
        self.next = next

    def cariLinkedList(self, dicari):
        curNode = self
        while curNode is not None:
            if curNode.next != None:
                if curNode.data != dicari:
                    curNode = curNode.next
            else:
                print ("Data ", dicari, "ada dalam linked list")
                break
            elif curNode.next == None:
                print ("Data ", dicari, "tidak ada dalam linked list")
                break

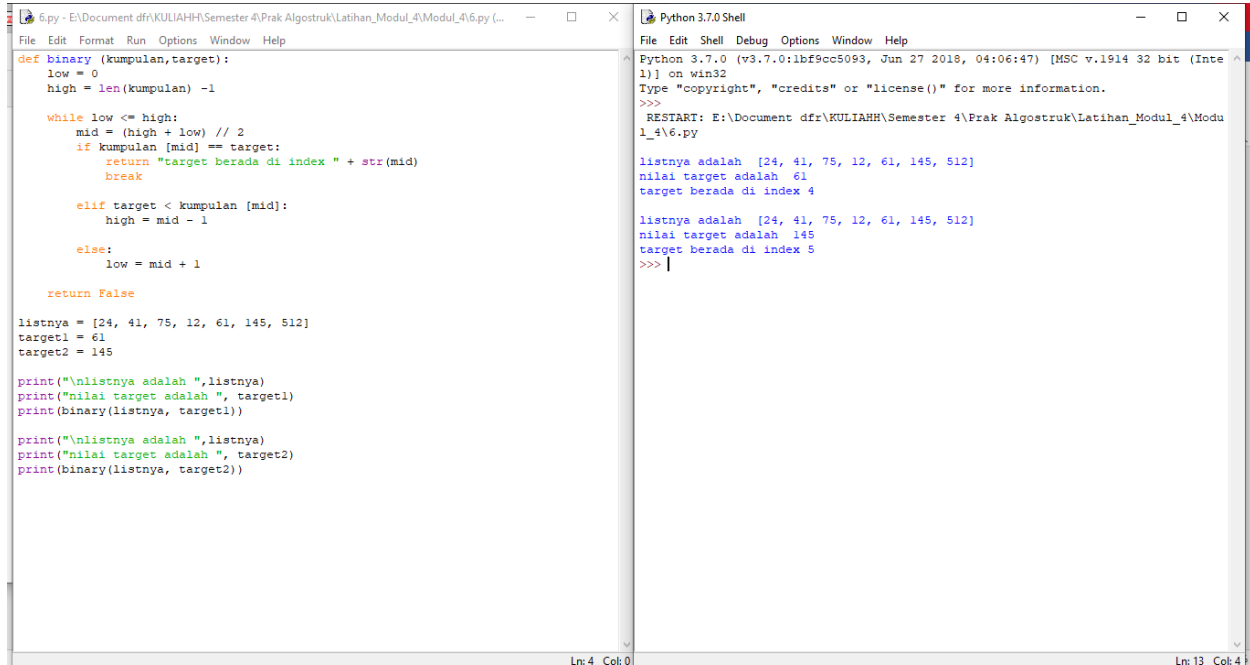
s = node(9)
menu = s
s.next = node(57)
s = s.next
s.next = node(10)
s = s.next
s.next = node(90)

menu.cariLinkedList(10)
menu.cariLinkedList(25)
```

Python 3.7.0 Shell

```
Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2018, 04:06:47) [MSC v.1914 32 bit (Intel)] on win32
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>>>
RESTART: E:\Document dfr\KULIAHH\Semester 4\Prak Algostruk\Latihan_Modul_4\Modul_4\5.py
Data 10 ada dalam linked list
Data 25 tidak ada dalam linked list
>>> |
```

No.6



The screenshot shows a Python 3.7.0 IDE with two windows. The left window displays a Python script for a binary search algorithm. The right window shows the Python Shell with the output of the script.

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

    while low <= high:
        mid = (high + low) // 2
        if kumpulan [mid] == target:
            return "target berada di index " + str(mid)
            break

        elif target < kumpulan [mid]:
            high = mid - 1

        else:
            low = mid + 1

    return False

listnya = [24, 41, 75, 12, 61, 145, 512]
target1 = 61
target2 = 145

print("\nlistnya adalah ",listnya)
print("nilai target adalah ", target1)
print(binary(listnya, target1))

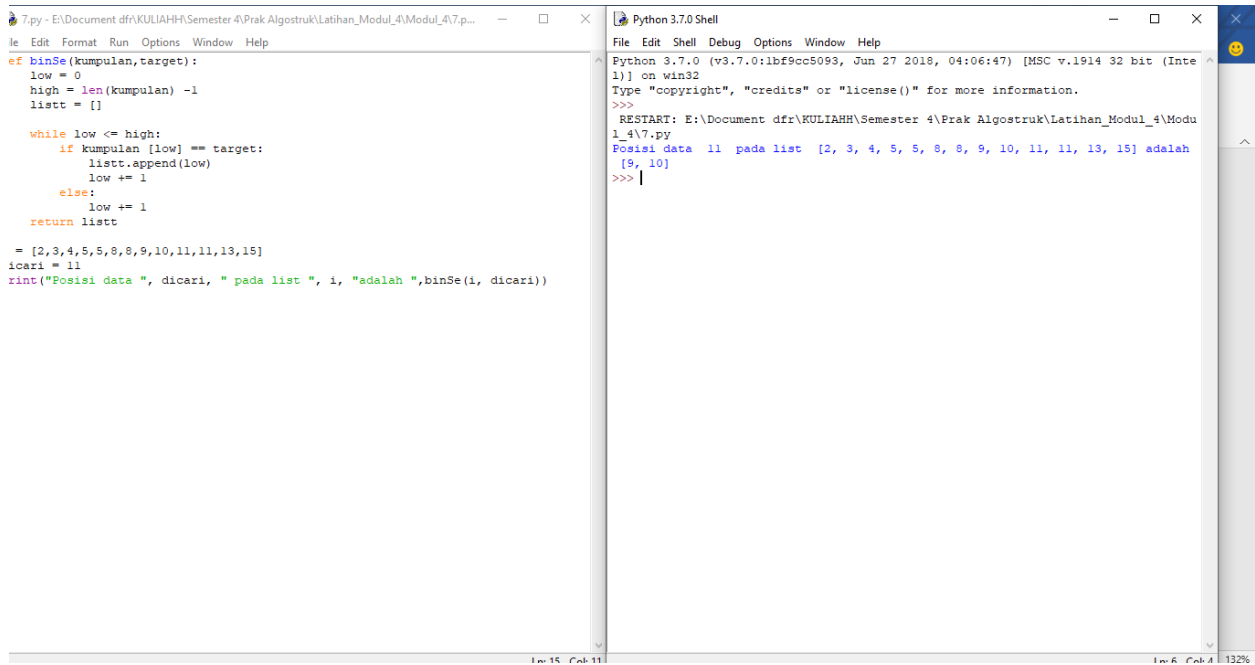
print("\nlistnya adalah ",listnya)
print("nilai target adalah ", target2)
print(binary(listnya, target2))
```

Python 3.7.0 Shell

```
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:\Document dfr\KULIAHH\Semester 4\Prak Algostruk\Latihan_Modul_4\Modul_4\6.py
listnya adalah [24, 41, 75, 12, 61, 145, 512]
nilai target adalah 61
target berada di index 4

listnya adalah [24, 41, 75, 12, 61, 145, 512]
nilai target adalah 145
target berada di index 5
>>> |
```

No.7



The image shows a Python IDE with two windows. The left window is a script named '7.py' containing a binary search function 'binSe' and a test call. The right window is a 'Python 3.7.0 Shell' showing the execution of the script, which outputs the position of the target value '11' in the list.

```
7.py - E:\Document dfr\KULIAHH\Semester 4\Prak Algostruk\Latihan_Modul_4\Modul_4\7.p...
File Edit Format Run Options Window Help

def binSe(kumpulan, target):
    low = 0
    high = len(kumpulan) - 1
    listt = []

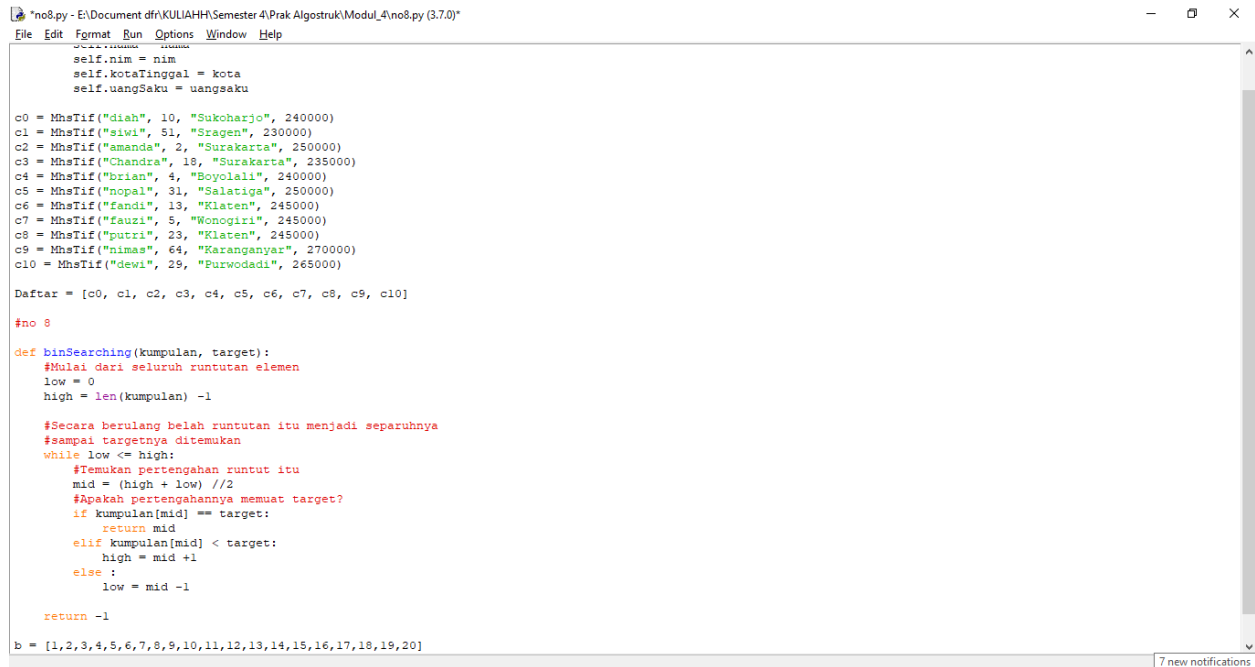
    while low <= high:
        if kumpulan[low] == target:
            listt.append(low)
            low += 1
        else:
            low += 1
    return listt

= [2, 3, 4, 5, 5, 8, 8, 9, 10, 11, 11, 13, 15]
dicari = 11
print("Posisi data ", dicari, " pada list ", i, "adalah ", binSe(i, dicari))

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:\Document dfr\KULIAHH\Semester 4\Prak Algostruk\Latihan_Modul_4\Modu
l_4\7.py
Posisi data 11 pada list [2, 3, 4, 5, 5, 8, 8, 9, 10, 11, 11, 13, 15] adalah
[9, 10]
>>> |
```

No.8



The image shows a Python IDE with a single window containing a class 'MhsTif' and a 'binSearching' function. The class has attributes for name, city, and money. The function 'binSearching' is a recursive implementation of binary search. The script also creates a list of 'MhsTif' objects and a list of integers 'b'.

```
*no8.py - E:\Document dfr\KULIAHH\Semester 4\Prak Algostruk\Modul_4\n08.py (3.7.0)
File Edit Format Run Options Window Help

class MhsTif:
    def __init__(self, nim, kota, uang):
        self.nim = nim
        self.kotaTinggal = kota
        self.uangSaku = uang

c0 = MhsTif("diah", 10, "Sukoharjo", 240000)
c1 = MhsTif("siwi", 51, "Sragen", 230000)
c2 = MhsTif("amanda", 2, "Surakarta", 250000)
c3 = MhsTif("Chandra", 18, "Surakarta", 235000)
c4 = MhsTif("brian", 4, "Boyolali", 240000)
c5 = MhsTif("nopal", 31, "Salatiga", 250000)
c6 = MhsTif("fandi", 13, "Klaten", 245000)
c7 = MhsTif("fauzi", 5, "Wonogiri", 245000)
c8 = MhsTif("putri", 23, "Klaten", 245000)
c9 = MhsTif("nimas", 64, "Karanganyar", 270000)
c10 = MhsTif("dewi", 29, "Purwodadi", 265000)

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

#no 8

def binSearching(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 mid
        elif kumpulan[mid] < target:
            high = mid + 1
        else:
            low = mid - 1
    return -1

b = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20]
```