

Modul 4

Nama : Hudi Pradjanu

NIM : L200180128

Kelas : E

Latihan 1

```
def carilurus(wadah, target):
    n = len(wadah)
    for i in range(n):
        if wadah[i] == target:
            return True
    return False

a = [10, 51, 2, 18, 4, 31, 13, 5, 23, 64, 29]
print(carilurus(a, 31))
print(carilurus(a, 8))
```

Python 3.8.2 Shell

```
Python 3.8.2 (tags/v3.8.2:7b3ab59, Feb 25 2020, 23:03:10) [MSC v.1916 64 bit (AMD 64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: D:\Prak Algostruk\L200180128_Algostruk_Modul4\latihan1.py =====
True
False
>>> |
```

Latihan 2

```
class Manusia:
    self.kotaTinggal = kota
    self.uangSaku = us

    def __str__(self):
        s = self.nama + ', NIM ' + str(self.NIM) + '. Tinggal di ' + self.kotaTinggal + '. Uang Saku: ' + str(self.uangSaku) + ' tiap bulannya.'
        return s

    def ambilNama(self):
        return self.nama

    def ambilNIM(self):
        return self.NIM

    def ambilUangSaku(self):
        return self.uangSaku

    def makan(self, s):
        """Metode ini menutupi metode 'makan' -nya class Manusia.
        Mahasiswa kalau makan sambil belajar"""
        print("Saya baru saja makan", s, "sambil belajar")
        self.keadaan = "kenyang"

c0 = Mahasiswa("Tika", 10, "Sukoharjo", 240000)
c1 = Mahasiswa("Budi", 51, "Sragen", 230000)
c2 = Mahasiswa("Ahmad", 2, "Surakarta", 250000)
c3 = Mahasiswa("Chandra", 18, "Surakarta", 235000)
c4 = Mahasiswa("Eka", 4, "Boyolali", 240000)
c5 = Mahasiswa("Fandi", 31, "Salatiga", 250000)
c6 = Mahasiswa("Deni", 13, "Klaten", 245000)
c7 = Mahasiswa("Galuh", 5, "Wonogiri", 245000)
c8 = Mahasiswa("Janto", 23, "Klaten", 245000)
c9 = Mahasiswa("Basan", 64, "Karanganyar", 270000)
c10 = Mahasiswa("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)
```

Python 3.8.2 Shell

```
Python 3.8.2 (tags/v3.8.2:7b3ab59, Feb 25 2020, 23:03:10) [MSC v.1916 64 bit (AMD 64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: D:\Prak Algostruk\L200180128_Algostruk_Modul4\Latihan2.py =====
Deni Tinggal di Klaten
Janto Tinggal di Klaten
>>> |
```

Latihan 3

The screenshot shows a Python IDE with two windows. The left window, titled 'Latihan3.py', contains a function `cariTerkecil` that takes a list `kumpulan` and returns the minimum element. It uses a loop to compare each element with the current minimum. Below the function, a list `a` is defined with the values `[12, 34, 5, 2, 4, 54, 3]`, and the function is called with `cariTerkecil(a)`. The right window, titled 'Python 3.8.2 Shell', shows the execution output: `===== RESTART: D:\Prak Algostruk\L200180128_Algostruk_Modul4\Latihan3.py =====` followed by the number `2`, which is the minimum value in the list.

```
File Edit Format Run Options Window Help
def cariTerkecil(kumpulan):
    n = len(kumpulan)
    terkecil = kumpulan[0]
    for i in range(1, n):
        if kumpulan[i] < terkecil:
            terkecil = kumpulan[i]

    return terkecil

a = [12, 34, 5, 2, 4, 54, 3]
print(cariTerkecil(a))
```

Ln: 8 Col: 19

Python 3.8.2 Shell

File Edit Shell Debug Options Window Help

Python 3.8.2 (tags/v3.8.2:7b3ab59, Feb 25 2020, 23:03:10) [MSC v.1916 64 bit (AMD 64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: D:\Prak Algostruk\L200180128_Algostruk_Modul4\Latihan3.py =====
2
>>>

Ln: 6 Col: 4

Latihan 4

The screenshot shows a Python IDE with two windows. The left window, titled 'Latihan4.py', contains a function `binse` that performs a binary search on a sorted list `kumpulan` for a `target`. It uses a `while` loop to repeatedly halve the search range until the target is found or the range is empty. Below the function, a sorted list `a` is defined with the values `[2, 4, 5, 10, 13, 18, 23, 29, 31, 51, 64]`, and the function is called with `binse(a, 10)`. The right window, titled 'Python 3.8.2 Shell', shows the execution output: `===== RESTART: D:\Prak Algostruk\L200180128_Algostruk_Modul4\Latihan4.py =====` followed by the boolean value `True`, indicating that the target `10` was found in the list.

```
File Edit Format Run Options Window Help
def binse(kumpulan, target):
    low = 0
    high = len(kumpulan)

    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

a = [2, 4, 5, 10, 13, 18, 23, 29, 31, 51, 64]
print(binse(a, 10))
```

Ln: 7 Col: 35

Python 3.8.2 Shell

File Edit Shell Debug Options Window Help

Python 3.8.2 (tags/v3.8.2:7b3ab59, Feb 25 2020, 23:03:10) [MSC v.1916 64 bit (AMD 64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: D:\Prak Algostruk\L200180128_Algostruk_Modul4\Latihan4.py =====
True
>>>

Ln: 6 Col: 4

Uang saku terkecil

```
Soal1.py - D:\Prak Algostruk\L200180128_Algostruk_Modul4\Soal1.py (3.8.2)
File Edit Format Run Options Window Help
class Manusia:
    def __init__(self, nama, umur, uangSaku):
        self.nama = nama
        self.umur = umur
        self.uangSaku = uangSaku

    def ambilNama(self):
        return self.nama

    def ambilNIM(self):
        return self.NIM

    def ambilUangSaku(self):
        return self.uangSaku

    def makan(self, s):
        """Metode ini menutupi metode 'makan' -nya class Manusia.
        Mahasiswa kalau makan sambil belajar"""
        print("Saya baru saja makan", s, "sambil belajar")
        self.keadaan = "kenyang"

def cariUang(Daftar):
    terkecil = Daftar[0].uangSaku
    namaMaha = Daftar[0].nama
    for i in Daftar:
        if i.uangSaku < terkecil:
            terkecil = i.uangSaku
            namaMaha = i.nama
    return "{} uang saku {}".format(namaMaha, terkecil)

c0 = Mahasiswa("Tika", 10, "Sukoharjo", 240000)
c1 = Mahasiswa("Budi", 51, "Sragen", 230000)
c2 = Mahasiswa("Ahmad", 2, "Surakarta", 250000)
c3 = Mahasiswa("Chandra", 18, "Surakarta", 235000)
c4 = Mahasiswa("Eka", 4, "Boyolali", 240000)
c5 = Mahasiswa("Fandi", 31, "Salatiga", 250000)
c6 = Mahasiswa("Deni", 13, "Klaten", 245000)
c7 = Mahasiswa("Galuh", 5, "Wonogiri", 245000)
c8 = Mahasiswa("Janto", 23, "Klaten", 245000)
c9 = Mahasiswa("Hasan", 64, "Karanganyar", 270000)
c10 = Mahasiswa("Khalid", 29, "Purwodadi", 265000)

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

print(cariUang(Daftar))

Ln: 56 Col: 33

Python 3.8.2 Shell
File Edit Shell Debug Options Window Help
Python 3.8.2 (tags/v3.8.2:7b3ab59, Feb 25 2020, 23:03:10) [MSC v.1916 64 bit (AMD 64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: D:\Prak Algostruk\L200180128_Algostruk_Modul4\Soal1.py =====
Budi uang saku 230000
>>>
```

Uang saku terbesar

```
Soal2.py - D:\Prak Algostruk\L200180128_Algostruk_Modul4\Soal2.py (3.8.2)
File Edit Format Run Options Window Help
class Manusia:
    def __init__(self, nama, umur, uangSaku):
        self.nama = nama
        self.umur = umur
        self.uangSaku = uangSaku

    def ambilNama(self):
        return self.nama

    def ambilNIM(self):
        return self.NIM

    def ambilUangSaku(self):
        return self.uangSaku

    def makan(self, s):
        """Metode ini menutupi metode 'makan' -nya class Manusia.
        Mahasiswa kalau makan sambil belajar"""
        print("Saya baru saja makan", s, "sambil belajar")
        self.keadaan = "kenyang"

def cariUang(Daftar):
    terkecil = Daftar[0].uangSaku
    namaMaha = Daftar[0].nama
    for i in Daftar:
        if i.uangSaku > terkecil:
            terkecil = i.uangSaku
            namaMaha = i.nama
    return "{} uang saku {}".format(namaMaha, terkecil)

c0 = Mahasiswa("Tika", 10, "Sukoharjo", 240000)
c1 = Mahasiswa("Budi", 51, "Sragen", 230000)
c2 = Mahasiswa("Ahmad", 2, "Surakarta", 250000)
c3 = Mahasiswa("Chandra", 18, "Surakarta", 235000)
c4 = Mahasiswa("Eka", 4, "Boyolali", 240000)
c5 = Mahasiswa("Fandi", 31, "Salatiga", 250000)
c6 = Mahasiswa("Deni", 13, "Klaten", 245000)
c7 = Mahasiswa("Galuh", 5, "Wonogiri", 245000)
c8 = Mahasiswa("Janto", 23, "Klaten", 245000)
c9 = Mahasiswa("Hasan", 64, "Karanganyar", 270000)
c10 = Mahasiswa("Khalid", 29, "Purwodadi", 265000)

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

print(cariUang(Daftar))

Ln: 74 Col: 23

Python 3.8.2 Shell
File Edit Shell Debug Options Window Help
Python 3.8.2 (tags/v3.8.2:7b3ab59, Feb 25 2020, 23:03:10) [MSC v.1916 64 bit (AMD 64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: D:\Prak Algostruk\L200180128_Algostruk_Modul4\Soal2.py =====
Hasan uang saku 270000
>>>
```

Uang saku kurang dari 250 ribu

```
Soal3.py - D:\Prak Algostruk\L200180128_Algostruk_Modul4\Soal3.py (3.8.2)
File Edit Format Run Options Window Help

def ambilNama(self):
    return self.nama

def ambilNIM(self):
    return self.NIM

def ambilUangSaku(self):
    return self.uangSaku

def makan(self, s):
    """Metode ini menutupi metode 'makan' -nya class Manusia.
    Mahasiswa kalau makan sambil belajar"""
    print("Saya baru saja makan", s, "sambil belajar")
    self.keadaan = "kenyang"

def cariUang(Daftar):
    uang = []
    namaMaha = []
    for i in Daftar:
        if i.uangSaku < 250000:
            uang.append(i.uangSaku)
            namaMaha.append(i.nama)

    for i in range(len(uang)):
        print("Nama", namaMaha[i], "Uang Saku", uang[i])

c0 = Mahasiswa("Tika", 10, "Sukoharjo", 240000)
c1 = Mahasiswa("Budi", 51, "Sragen", 230000)
c2 = Mahasiswa("Ahmad", 2, "Surakarta", 250000)
c3 = Mahasiswa("Chandra", 18, "Surakarta", 235000)
c4 = Mahasiswa("Eka", 4, "Boyolali", 240000)
c5 = Mahasiswa("Fandi", 31, "Salatiga", 250000)
c6 = Mahasiswa("Deni", 13, "Klaten", 245000)
c7 = Mahasiswa("Galuh", 5, "Wonogiri", 245000)
c8 = Mahasiswa("Janto", 23, "Klaten", 245000)
c9 = Mahasiswa("Hasan", 64, "Karanganyar", 270000)
c10 = Mahasiswa("Khalid", 29, "Purwodadi", 265000)

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

cariUang(Daftar)
```

```
Python 3.8.2 Shell
File Edit Shell Debug Options Window Help

Python 3.8.2 (tags/v3.8.2:7b3ab59, Feb 25 2020, 23:03:10) [MSC v.1916 64 bit (AMD
64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: D:\Prak Algostruk\L200180128_Algostruk_Modul4\Soal3.py =====
Nama Ika Uang Saku 240000
Nama Budi Uang Saku 230000
Nama Chandra Uang Saku 235000
Nama Eka Uang Saku 240000
Nama Deni Uang Saku 245000
Nama Galuh Uang Saku 245000
Nama Janto Uang Saku 245000
>>>
```

Uang saku lebih dari 250 ribu

```
Soal4.py - D:\Prak Algostruk\L200180128_Algostruk_Modul4\Soal4.py (3.8.2)
File Edit Format Run Options Window Help

def ambilNama(self):
    return self.nama

def ambilNIM(self):
    return self.NIM

def ambilUangSaku(self):
    return self.uangSaku

def makan(self, s):
    """Metode ini menutupi metode 'makan' -nya class Manusia.
    Mahasiswa kalau makan sambil belajar"""
    print("Saya baru saja makan", s, "sambil belajar")
    self.keadaan = "kenyang"

def cariUang(Daftar):
    uang = []
    namaMaha = []
    for i in Daftar:
        if i.uangSaku > 250000:
            uang.append(i.uangSaku)
            namaMaha.append(i.nama)

    for i in range(len(uang)):
        print("Nama", namaMaha[i], "Uang Saku", uang[i])

c0 = Mahasiswa("Tika", 10, "Sukoharjo", 240000)
c1 = Mahasiswa("Budi", 51, "Sragen", 230000)
c2 = Mahasiswa("Ahmad", 2, "Surakarta", 250000)
c3 = Mahasiswa("Chandra", 18, "Surakarta", 235000)
c4 = Mahasiswa("Eka", 4, "Boyolali", 240000)
c5 = Mahasiswa("Fandi", 31, "Salatiga", 250000)
c6 = Mahasiswa("Deni", 13, "Klaten", 245000)
c7 = Mahasiswa("Galuh", 5, "Wonogiri", 245000)
c8 = Mahasiswa("Janto", 23, "Klaten", 245000)
c9 = Mahasiswa("Hasan", 64, "Karanganyar", 270000)
c10 = Mahasiswa("Khalid", 29, "Purwodadi", 265000)

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

cariUang(Daftar)
```

```
Python 3.8.2 Shell
File Edit Shell Debug Options Window Help

Python 3.8.2 (tags/v3.8.2:7b3ab59, Feb 25 2020, 23:03:10) [MSC v.1916 64 bit (AMD
64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: D:\Prak Algostruk\L200180128_Algostruk_Modul4\Soal4.py =====
Nama Hasan Uang Saku 270000
Nama Khalid Uang Saku 265000
>>>
```