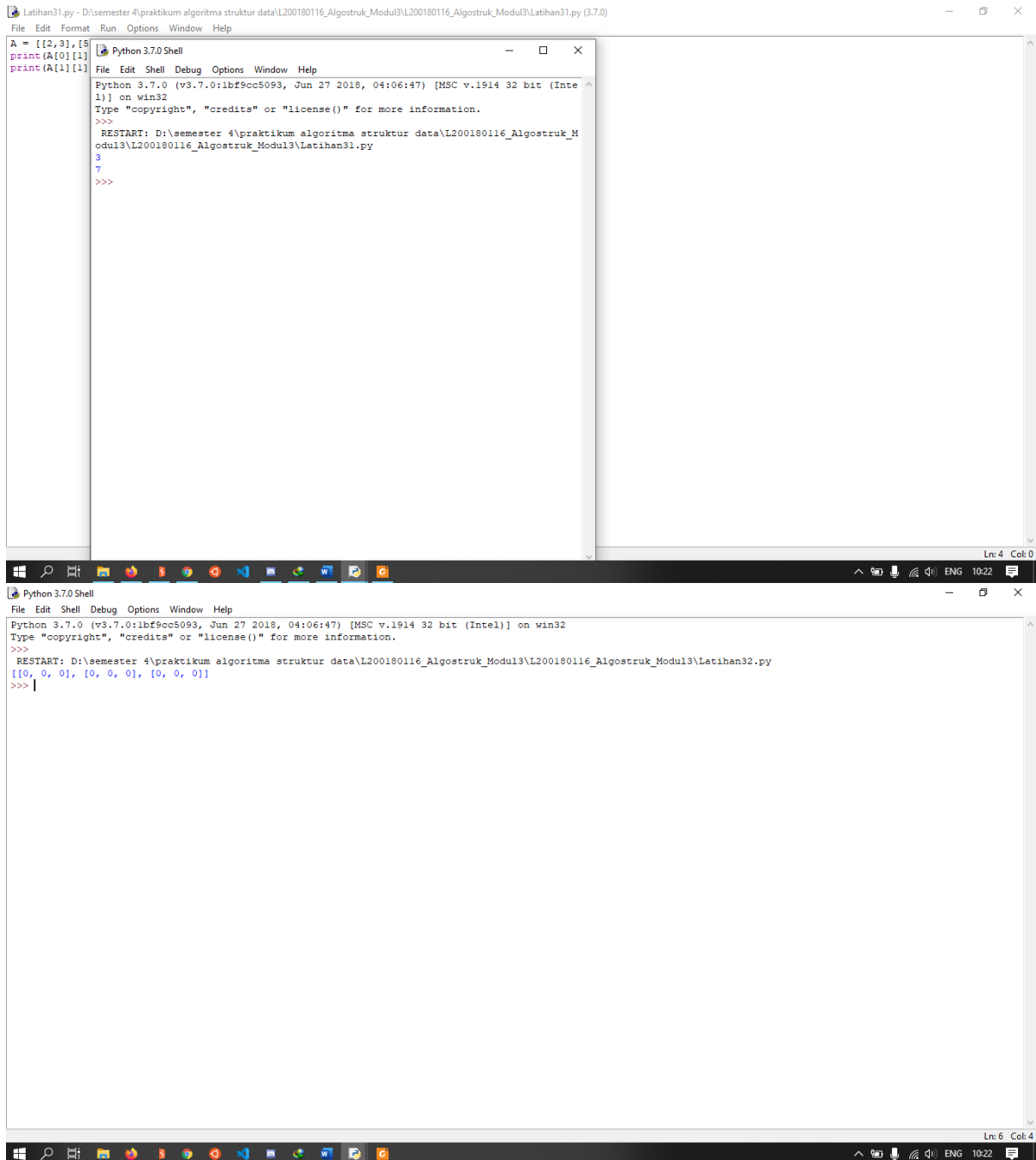


Nama : Maulana Alhif Ikhsan

NIM : L200180120

Kelas : E



```
Latihan31.py - D:\semester 4\praktikum algoritma struktur data\L200180116_Algostruk_Modul3\L200180116_Algostruk_Modul3\Latihan31.py (3.7.0)
File Edit Format Run Options Window Help

A = [[2,3],[5]]
print(A[0][1])
print(A[1][1])

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: D:\semester 4\praktikum algoritma struktur data\L200180116_Algostruk_Modul3\L200180116_Algostruk_Modul3\Latihan31.py
3
7
>>>

Ln: 4 Col: 0

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: D:\semester 4\praktikum algoritma struktur data\L200180116_Algostruk_Modul3\L200180116_Algostruk_Modul3\Latihan32.py
[[0, 0, 0], [0, 0, 0], [0, 0, 0]]
>>> |

Ln: 6 Col: 4
```

```
Latihan33.py - D:\semester 4\praktikum algoritma struktur data\L200180116_Algostruk_Modul3\L200180116_Algostruk_Modul3\Latihan33.py (3.7.0)
File Edit Format Run Options Window Help

class Node(object):
    """Sebuah simpul"""
    def __init__(self, data):
        self.data = data
        self.next = None

a = Node(11)
b = Node(52)
c = Node(18)

a.next = b
b.next = c

print(a.data)
print(a.next.data)
print(a.next.next.data)
```

```
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: D:\semester 4\praktikum algoritma struktur data\L200180116_Algostruk_Modul3\L200180116_Algostruk_Modul3\Latihan33.py
11
52
18
>>>
```

```
Latihan35.py - D:\semester 4\praktikum algoritma struktur data\L200180116_Algostruk_Modul3\L200180116_Algostruk_Modul3\Latihan35.py (3.7.0)
File Edit Format Run Options Window Help

class DNode(object):
    def __init__(self, data):
        self.data = data
        self.next = None
        self.prev = None

a = DNode(11)
b = DNode(52)
c = DNode(18)

a.next = b
b.next = c
c.prev = b
b.prev = a

print(a.data)
print(b.next.data)
print(a.next.data)
print(c.prev.data)
```

```
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: D:\semester 4\praktikum algoritma struktur data\L200180116_Algostruk_Modul3\L200180116_Algostruk_Modul3\Latihan35.py
11
18
52
52
>>> |
```

```
x = matriks()
x.cetakmatriks(A)
print(x.cekkonsisten(A))

y = matriks()
y.cetakmatriks(B)
print(y.cekkonsisten(B))

#Nomor 1B
def ordo(matriks):
    return ("Ordo matriks = "+str(len(matriks))+

#Nomor 1C
def Jumlah(matriks1, matriks2):
    if ordo(matriks1) == ordo(matriks2):
        for x in range(0, len(matriks1)):
            for y in range(0, len(matriks1[0])):
                print (matriks1[x][y] + matriks2[
                print()
            else:
                print("Matriks tidak sesuai")

#Nomor 1D
def kali(m,n):
    a = 0
    x,y = 0,0
    for i in range(len(m)):
        x += 1
        y = len(m[i])
    v,w = 0,0
    for i in range(len(n)):
        v += 1
        w = len(n[i])

    if (y == v):
        print ("Bisa Dikalikan")
        vwxy = [[0 for j in range(w)] for i in ra
        for i in range(len(m)):
            for j in range(len(n[0])):
                for k in range(len(n)):
                    vwxy[i][j] += m[i][k] * n[k][
```

```
Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2018, 04:06:47) [MSC v.1914 32 bit (Inte
1)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
RESTART: D:\semester 4\praktikum algoritma struktur data\L200180116_Algostruk_M
[1, 2]
[3, 4]
[5, 6]
matriks tidak konsisten
None
[7, 8]
[9, 10]
matriks konsisten
None
>>>
```

Ln: 16 Col: 0

```
x = matriks()
x.cetakmatriks(A)
print(x.cekkonsisten(A))

y = matriks()
y.cetakmatriks(B)
print(y.cekkonsisten(B))

#Nomor 1B
def ordo(matriks):
    return ("Ordo matriks = "+str(len(matriks))+

#Nomor 1C
def Jumlah(matriks1, matriks2):
    if ordo(matriks1) == ordo(matriks2):
        for x in range(0, len(matriks1)):
            for y in range(0, len(matriks1[0])):
                print (matriks1[x][y] + matriks2[
                print()
            else:
                print("Matriks tidak sesuai")

#Nomor 1D
def kali(m,n):
    a = 0
    x,y = 0,0
    for i in range(len(m)):
        x += 1
        y = len(m[i])
    v,w = 0,0
    for i in range(len(n)):
        v += 1
        w = len(n[i])

    if (y == v):
        print ("Bisa Dikalikan")
        vwxy = [[0 for j in range(w)] for i in ra
        for i in range(len(m)):
            for j in range(len(n[0])):
                for k in range(len(n)):
                    vwxy[i][j] += m[i][k] * n[k][
```

```
Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2018, 04:06:47) [MSC v.1914 32 bit (Inte
1)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
RESTART: D:\semester 4\praktikum algoritma struktur data\L200180116_Algostruk_M
[1, 2]
[3, 4]
[5, 6]
matriks tidak konsisten
None
[7, 8]
[9, 10]
matriks konsisten
None
>>> ordo(A)
'Ordo matriks = 3 x 2'
>>> ordo(B)
'Ordo matriks = 2 x 2'
>>> ordo(C)
'Ordo matriks = 2 x 2'
>>>
```

Ln: 16 Col: 0

```
Nomor1.py - D:\semester 4\praktikum algoritma struktur data\L200180116_Algostruk_Modul3\L200180116_Algostruk_Modul3\Nomor1.py (3.7.0)
File Edit Format Run Options Window Help

x.cetakmatriks(A)
print(x.cekkonsisten(A))

y = matriks()
y.cetakmatriks(B)
print(y.cekkonsisten(B))

>>>
RESTART: D:\semester 4\praktikum algoritma struktur data\L200180116_Algostruk_Modul3\L200180116_Algostruk_Modul3\Nomor1.py
>>>
[1, 2]
[3, 4]
[5, 6]
Matriks tidak konsisten
None
[7, 8]
[9, 10]
Matriks konsisten
None
Bisa Dikalikan
[[25, 28], [57, 64], [89, 100]]
Bisa Dikalikan
[[61, 58], [77, 74]]
>>> Jumlah(A,B)
Matriks tidak sesuai
>>> Jumlah(B,C)
10
14
14
12
>>> |

#Nomor 1B
def ordo(matriks):
    return ("Ordo matriks" + str(len(matriks)))

#Nomor 1C
def Jumlah(matriks1, matriks2):
    if ordo(matriks1) == ordo(matriks2):
        for x in range(0, len(matriks1)):
            for y in range(0, len(matriks1[x])):
                print(matriks1[x][y] + matriks2[x][y], ' '),
            print()
    else:
        print("Matriks tidak sesuai")

#Nomor 1D
def kali(m, n):
    a = 0
    x, y = 0, 0
    for i in range(len(m)):
        x += 1
        y = len(m[i])
        v, w = 0, 0
        for i in range(len(n)):
            v += 1
            w = len(n[i])

            if (y == v):
                print("Bisa Dikalikan")
                vwxy = [[0 for j in range(w)] for i in range(x)]
                for i in range(len(m)):
                    for j in range(len(n[0])):
                        for k in range(len(n)):
                            vwxy[i][j] += m[i][k] * n[k][j]
                print(vwxy)
            else:
                print("Tidak memenuhi syarat")

kali(A,B)
kali(B,C)
```

```
Nomor1.py - D:\semester 4\praktikum algoritma struktur data\L200180116_Algostruk_Modul3\L200180116_Algostruk_Modul3\Nomor1.py (3.7.0)
File Edit Format Run Options Window Help

print(y.cekko)
#Nomor 1B
def ordo(matriks):
    return (" ")

#Nomor 1C
def Jumlah(matriks):
    if ordo(matriks) == " ":
        for x in range(1, len(matriks)):
            for y in range(1, len(matriks[x])):
                if matriks[x][y] != matriks[x-1][y]:
                    print("matriks tidak konsisten")
                    return None
        print("matriks konsisten")
    else:
        print("matriks tidak konsisten")
        return None

#Nomor 1D
def kali(m,n):
    a = 0
    x,y = 0,0
    for i in range(1, len(matriks)):
        x += matriks[i][0]
        y += matriks[i][1]
    v,w = 0,0
    for i in range(1, len(matriks)):
        v += matriks[i][0]
        w += matriks[i][1]
    if (y == w):
        print("Bisa Dikalikan")
        print(v*w)
    else:
        print("Tidak Bisa Dikalikan")

kali(A,B)
kali(B,C)
```

```
Nomor1.py - D:\semester 4\praktikum algoritma struktur data\L200180116_Algostruk_Modul3\L200180116_Algostruk_Modul3\Nomor1.py (3.7.0)
File Edit Format Run Options Window Help

print(y.cekko)
#Nomor 1B
def ordo(matriks):
    return (" ")

#Nomor 1C
def Jumlah(matriks):
    if ordo(matriks) == " ":
        for x in range(1, len(matriks)):
            for y in range(1, len(matriks[x])):
                if matriks[x][y] != matriks[x-1][y]:
                    print("matriks tidak konsisten")
                    return None
        print("matriks konsisten")
    else:
        print("matriks tidak konsisten")
        return None

#Nomor 1D
def kali(m,n):
    a = 0
    x,y = 0,0
    for i in range(1, len(matriks)):
        x += matriks[i][0]
        y += matriks[i][1]
    v,w = 0,0
    for i in range(1, len(matriks)):
        v += matriks[i][0]
        w += matriks[i][1]
    if (y == w):
        print("Bisa Dikalikan")
        print(v*w)
    else:
        print("Tidak Bisa Dikalikan")

kali(A,B)
kali(B,C)
```

```
Nomor2.py - D:\semester 4\praktikum algoritma struktur data\L200180116_Algostruk_Modul3\L200180116_Algostruk_Modul3\Nomor2.py (3.7.0)
File Edit Format Run Options Window Help

#Nomor 2A
def buatNol(n, m=None):
    if (m == None):
        m = n
    print ("Membuat matriks 0 dengan ordo " + str(n) + " x " + str(m))
    print ([[0 for j in range(m)] for i in range(n)])

#Nomor 2B
def buatIdentitas(m):
    n = m
    print ("Membuat matriks identitas dengan ordo " + str(n) + " x " + str(n))
    matriks = [[1 if j == i else 0 for j in range(n)] for i in range(n)]
    print(matriks)

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: D:\semester 4\praktikum algoritma struktur data\L200180116_Algostruk_Modul3\L200180116_Algostruk_Modul3\Nomor2.py
>>> buatNol(2,4)
Membuat matriks 0 dengan ordo 2 x 4
[[0, 0, 0, 0], [0, 0, 0, 0]]
>>> buatNol(3)
Membuat matriks 0 dengan ordo 3 x 3
[[0, 0, 0], [0, 0, 0], [0, 0, 0]]
>>> |
```

```
Nomor2.py - D:\semester 4\praktikum algoritma struktur data\L200180116_Algostruk_Modul3\L200180116_Algostruk_Modul3\Nomor2.py (3.7.0)
File Edit Format Run Options Window Help

#Nomor 2A
def buatNol(n, m=None):
    if (m == None):
        m = n
    print ("Membuat matriks 0 dengan ordo " + str(n) + " x " + str(m))
    print ([[0 for j in range(m)] for i in range(n)])

#Nomor 2B
def buatIdentitas(m):
    n = m
    print ("Membuat matriks identitas dengan ordo " + str(n) + " x " + str(n))
    matriks = [[1 if j == i else 0 for j in range(n)] for i in range(n)]
    print(matriks)

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: D:\semester 4\praktikum algoritma struktur data\L200180116_Algostruk_Modul3\L200180116_Algostruk_Modul3\Nomor2.py
>>> buatNol(2,4)
Membuat matriks 0 dengan ordo 2 x 4
[[0, 0, 0, 0], [0, 0, 0, 0]]
>>> buatNol(3)
Membuat matriks 0 dengan ordo 3 x 3
[[0, 0, 0], [0, 0, 0], [0, 0, 0]]
>>> buatIdentitas(4)
Membuat matriks identitas dengan ordo 4 x 4
[[1, 0, 0, 0], [0, 1, 0, 0], [0, 0, 1, 0], [0, 0, 0, 1]]
>>> buatIdentitas(2)
Membuat matriks identitas dengan ordo 2 x 2
[[1, 0], [0, 1]]
>>>
```

```
Nomor3.py - D:\semester 4\praktikum algoritma struktur data\L200180116_Algostruk_Modul3\L200180116_Algostruk_Modul3\Nomor3.py (3.7.0)
File Edit Format Run Options Window Help

#Nomor 3
class Node:
    def __init__(self, data):
        self.data = data
        self.next = None
class LinkedList:
    def __init__(self):
        self.head = None
    def tambahDepan(self, new_data):
        new_node = Node(new_data)
        new_node.next = self.head
        self.head = new_node
    def tambahAkhir(self, data):
        if (self.head == None):
            self.head = Node(data)
        else:
            current = self.head
            while (current.next != None):
                current = current.next
            current.next = Node(data)
        return self.head
    def tambah(self, data, pos):
        node = Node(data)
        if not self.head:
            self.head = node
        elif pos == 0:
            node.next = self.head
            self.head = node
        else:
            prev = None
            current = self.head
            current_pos = 0
            while (current_pos < pos) and current.next:
                prev = current
                current = current.next
                current_pos += 1
            prev.next = node
            node.next = current
        return self.head
    def hapus(self, pos):
        if self.head == None:
            return

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: D:\semester 4\praktikum algoritma struktur data\L200180116_Algostruk_Modul3\L200180116_Algostruk_Modul3\Nomor3.py
12 Apakah ada dalam data?
True
90 Apakah ada dalam data?
False
12 31 3 19
>>>
```

```
Nomor4.py - D:\semester 4\praktikum algoritma struktur data\L200180116_Algostruk_Modul3\L200180116_Algostruk_Modul3\Nomor4.py (3.7.0)
File Edit Format Run Options Window Help

#Nomor 4
class Node:
    def __init__(self, data):
        self.data = data
        self.prev = None
        self.next = None
class DoublyLinkedList:
    def __init__(self):
        self.head = None
    def awal(self, new_data):
        print("Menambah pada awal ", new_data)
        new_node = Node(new_data)
        new_node.next = self.head
        if self.head is not None:
            self.head.prev = new_node
        self.head = new_node
    def akhir(self, new_data):
        print("Menambah pada akhir ", new_data)
        new_node = Node(new_data)
        new_node.next = None
        if self.head is None:
            new_node.prev = None
            self.head = new_node
            return
        last = self.head
        while (last.next is not None):
            last = last.next
        last.next = new_node
        new_node.prev = last
        return
    def printList(self, node):
        print("\nDari depan :")
        while (node is not None):
            print (" %d "%(node.data))
            last = node
            node = node.next
        print ("\nDari belakang :")
        while (last is not None):
            print (" %d "%(last.data))
            last = last.prev

d = DoublyLinkedList()
d.awal(8)

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: D:\semester 4\praktikum algoritma struktur data\L200180116_Algostruk_Modul3\L200180116_Algostruk_Modul3\Nomor4.py
Menambah pada awal 8
Menambah pada awal 1
Menambah pada akhir 7
Menambah pada akhir 3

Dari depan :
1
8
7
3

Dari belakang :
3
7
8
1
>>> |
```