

Kelas :B

1. Nomer 1

The screenshot shows a Windows desktop with two Python IDE windows open. The left window is titled 'Python 3.7.2 Shell' and shows the execution of a script. The right window is titled 'D:\1. SEMESTER 4\Praktikum ASD\MODUL - 3\001.py (3.7.2)*' and shows the source code of the script with comments in Indonesian.

Left Window (Python 3.7.2 Shell):

```
Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 22:20:52) [MSC v.1916 32 bit
[Intel]] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: D:\1. SEMESTER 4\Praktikum ASD\MODUL - 3\001.py =====
[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'
>>> Jumlah(a,b)
Matriks Tidak Sesuai
>>> Jumlah(a,c)
Matriks Tidak Sesuai
>>> Jumlah(b,c)
9
>>>
===== RESTART: D:\1. SEMESTER 4\Praktikum ASD\MODUL - 3\001.py =====
bisa dikalikan
[[25, 28], [57, 64], [89, 100]]
bisa dikalikan
[[54, 58], [68, 74]]
>>>
```

Right Window (D:\1. SEMESTER 4\Praktikum ASD\MODUL - 3\001.py (3.7.2)*):

```
File Edit Format Run Options Window Help
a = [[1,2], [3,4], [5,6]]
b = [[7,8], [9,10]]
c = [[5,6], [5,2]]

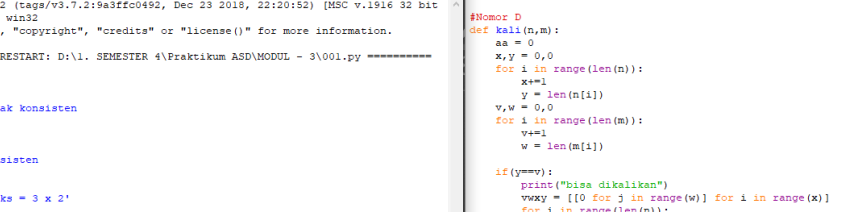
#Homor A
class matriks(object):
    def cetakmatriks(self, matriks):
        for i in matriks:
            print(i)
    def cekkonsisten(self, matriks):
        if len(matriks[0]) == len(matriks) :
            print ("Matriks konsisten")
        else:
            print ("Matriks tidak konsisten")

x = matriks()
x.cetakmatriks(a)
print(x.cekkonsisten(a))
y = matriks()
y.cetakmatriks(b)
print(y.cekkonsisten(b))

#Homor B
def Ordo(matriks):
    return "Ordo Matriks = "+str(len(matriks))+ " x " +str(len(matriks[0]))

#Homor C
def Ordo(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[x][y], ' '),
            print()
    else:
        print ("Matriks Tidak Sesuai")

#Homor D
def Kali(n,m):
    aa = 0
    x,y = 0,0
    for i in range(len(n)):
        x+=1
```



The screenshot displays two side-by-side Python IDE windows. The left window, titled 'Python 3.7.2 Shell', shows the execution of a script named '001.py'. It prints the dimensions of two matrices, 'a' (3x2) and 'b' (2x2), and then prints the result of their multiplication, which is a 2x2 matrix: $\begin{bmatrix} 125 & 20 \\ 154 & 58 \end{bmatrix}$. The right window, titled '001.py - D:\1. SEMESTER 4\Praktikum ASD\MODUL - 3\001.py (3.7.2)', shows the source code of the script. It defines two matrices, 'a' and 'b', and uses nested loops to calculate their product, storing the result in 'vwxy'. The code includes comments in Indonesian explaining the steps: 'bisa dikalikan' (can be multiplied) and 'tidak memenuhi syarat' (does not meet the condition).

```
Python 3.7.2 Shell
File Edit Shell Debug Options Window Help
Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 22:20:52) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: D:\1. SEMESTER 4\Praktikum ASD\MODUL - 3\001.py =====
[[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'
>>> Jumlah(a,b)
Matriks Tidak Sesuai
>>> Jumlah(a,c)
Matriks Tidak Sesuai
>>> Jumlah(b,c)
9
14
14
12
>>>
===== RESTART: D:\1. SEMESTER 4\Praktikum ASD\MODUL - 3\001.py =====
bisa dikalikan
[[25, 20], [57, 64], [89, 100]]
bisa dikalikan
[[54, 58], [68, 74]]
>>>

001.py - D:\1. SEMESTER 4\Praktikum ASD\MODUL - 3\001.py (3.7.2)
File Edit Format Run Options Window Help
#Nomor D
def kali(n,m):
    aa = 0
    x,y = 0,0
    for i in range(len(n)):
        x+=1
        y = len(n[i])
    v,w = 0,0
    for i in range(len(m)):
        v+=1
        w = len(m[i])

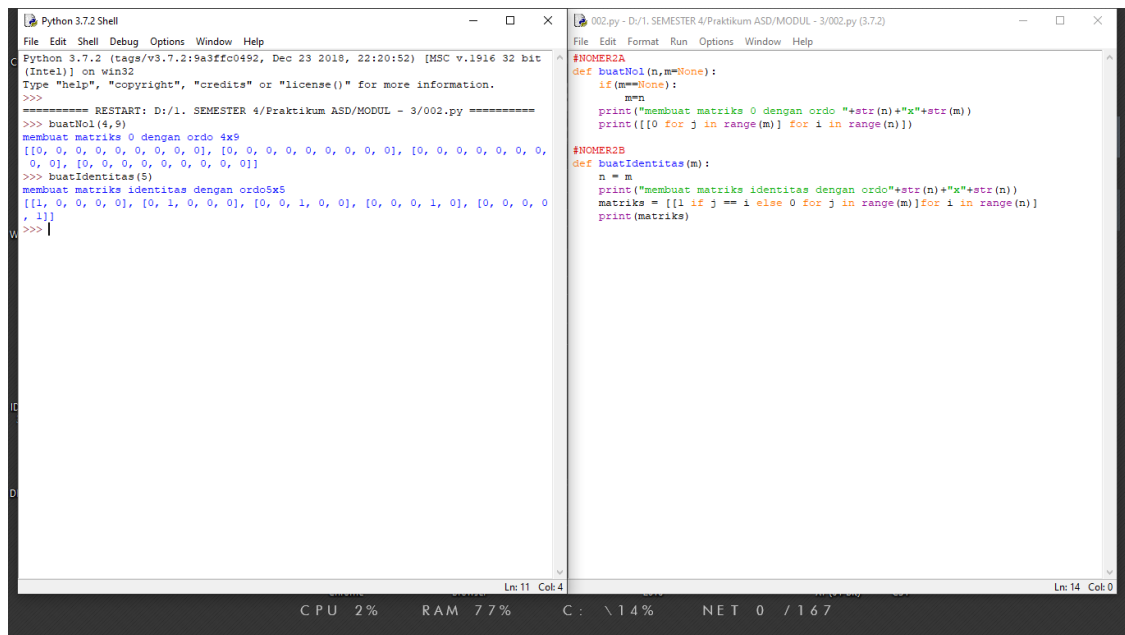
    if (y==v):
        print("bisa dikalikan")
        vwxy = [[0 for j in range(w)] for i in range(x)]
        for i in range(len(n)):
            for j in range(len(m[0])):
                for k in range(len(m)):
                    vwxy[i][j] += n[i][k] * m[k][j]

        print(vwxy)
    else:
        print("tidak memenuhi syarat")

kali(a,b)
kali(b,c)

def determinan(A, total=0):
    x = len(A[0])
    z = 0
    for i in range(len(A)):
        if (len(A[i]) == x):
            z+=1
    if (z == len(A)):
        if (x==len(A)):
            indices = list(range(len(A)))
            if len(A) == 2 and len(A[0]) == 2:
                val = A[0][0] * A[1][1] - A[1][0] * A[0][1]
                return val
```

2. Nomer 2



The image shows two side-by-side Python 3.7.2 Shell windows. The left window displays the execution of a script that defines two functions: `buatMatriks` and `buatIdentitas`. The right window shows the source code for these functions.

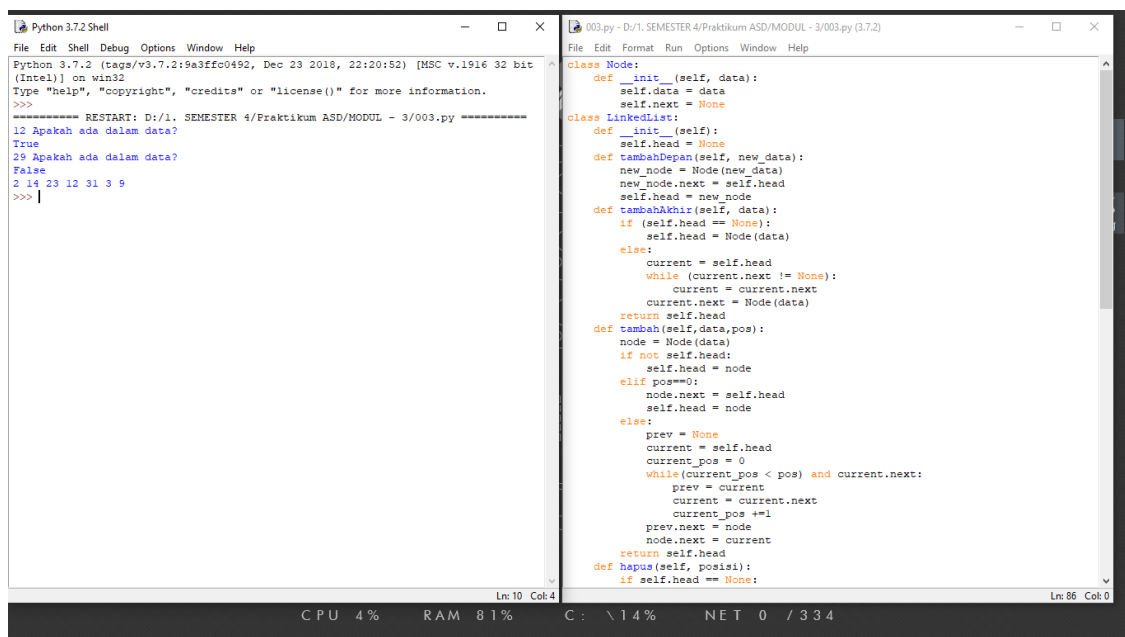
```
Python 3.7.2 Shell
File Edit Shell Debug Options Window Help
Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 22:20:52) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: D:/1. SEMESTER 4/Praktikum ASD/MODUL - 3/002.py =====
>>> buatMatriks(4,9)
membuat matriks 0 dengan ordo 4x9
[[0, 0, 0, 0, 0, 0, 0, 0, 0], [0, 0, 0, 0, 0, 0, 0, 0, 0], [0, 0, 0, 0, 0, 0, 0, 0, 0], [0, 0, 0, 0, 0, 0, 0, 0, 0]]
>>> buatIdentitas(5)
membuat matriks identitas dengan ordo 5x5
[[1, 0, 0, 0, 0], [0, 1, 0, 0, 0], [0, 0, 1, 0, 0], [0, 0, 0, 1, 0], [0, 0, 0, 0, 1]]
>>> |

002.py - D:/1. SEMESTER 4/Praktikum ASD/MODUL - 3/002.py (3.7.2)
File Edit Format Run Options Window Help
#NOMER2A
def buatMatriks(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)])

#NOMER2B
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(m)] for i in range(n)]
    print(matriks)
```

CPU 2% RAM 77% C: \ 14% NET 0 / 167

3. Nomer 3



The image shows two side-by-side Python 3.7.2 Shell windows. The left window displays the execution of a script that tests a linked list implementation. The right window shows the source code for the `Node` class and the `LinkedList` class.

```
Python 3.7.2 Shell
File Edit Shell Debug Options Window Help
Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 22:20:52) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: D:/1. SEMESTER 4/Praktikum ASD/MODUL - 3/003.py =====
12 Apakah ada dalam data?
True
29 Apakah ada dalam data?
False
2 14 23 12 31 3 9
>>> |

003.py - D:/1. SEMESTER 4/Praktikum ASD/MODUL - 3/003.py (3.7.2)
File Edit Format Run Options Window Help
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, posisi):
        if self.head == None:
```

CPU 4% RAM 81% C: \ 14% NET 0 / 334

```
Python 3.7.2 Shell
File Edit Shell Debug Options Window Help
Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 22:20:52) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: D:/1. SEMESTER 4/Praktikum ASD/MODUL - 3/003.py =====
12 Apakah ada dalam data?
True
29 Apakah ada dalam data?
False
2 14 23 12 31 3 9
>>>

003.py - D:/1. SEMESTER 4/Praktikum ASD/MODUL - 3/003.py (3.7.2)
File Edit Format Run Options Window Help
temp = temp.next
if temp is None:
    break
if temp is None:
    return
if temp.next is None:
    return
next = temp.next.next
temp.next = None
temp.next = next
def cari(self, x):
    current = self.head
    while current != None:
        if current.data == x:
            print(x, "Apakah ada dalam data?")
            return True
        current = current.next
    print(x, "Apakah ada dalam data?")
    return False
def display(self):
    current = self.head
    while current is not None:
        print(current.data, end = ' ')
        current = current.next
a = LinkedList()
a.tambahDepan(31)
a.tambahDepan(12)
a.tambahDepan(23)
a.tambahDepan(14)
a.tambahDepan(2)
a.tambahDepan(19)
a.tambahAkhir(9)
a.hapus(0)
a.tambah(3,5)
print(a.cari(12))
print(a.cari(29))
a.display()
Ln: 10 Col: 4
CPU 3% RAM 82% C: \14% NET 0 / 0
```

4. Nomer 4

```
Python 3.7.2 Shell
File Edit Shell Debug Options Window Help
Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 22:20:52) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: D:/1. SEMESTER 4/Praktikum ASD/MODUL - 3/004.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
>>>

004.py - D:/1. SEMESTER 4/Praktikum ASD/MODUL - 3/004.py (3.7.2)
File Edit Format Run Options Window Help
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
    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
b = DoublyLinkedList()
Ln: 20 Col: 0
CPU 5% RAM 80% C: \14% NET 2 k / 4 k
```

```
Python 3.7.2 Shell
File Edit Shell Debug Options Window Help
Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 22:20:52) [MSC v.1916 32 bit
(Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: D:/1. SEMESTER 4/Praktikum ASD/MODUL - 3/004.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
>>>

004.py - D:/1. SEMESTER 4/Praktikum ASD/MODUL - 3/004.py (3.7.2)
File Edit Format Run Options Window Help

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
    else:
        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

b = DoublyLinkedList()
b.awal(8)
b.awal(1)
b.akhir(7)
b.akhir(3)
b.printList(b.head)

Ln: 20 Col: 0
Ln: 45 Col: 0
CPU 45% RAM 81% C: \14% NET 66 /0
```