Praktikum Algostruk
Modul 3

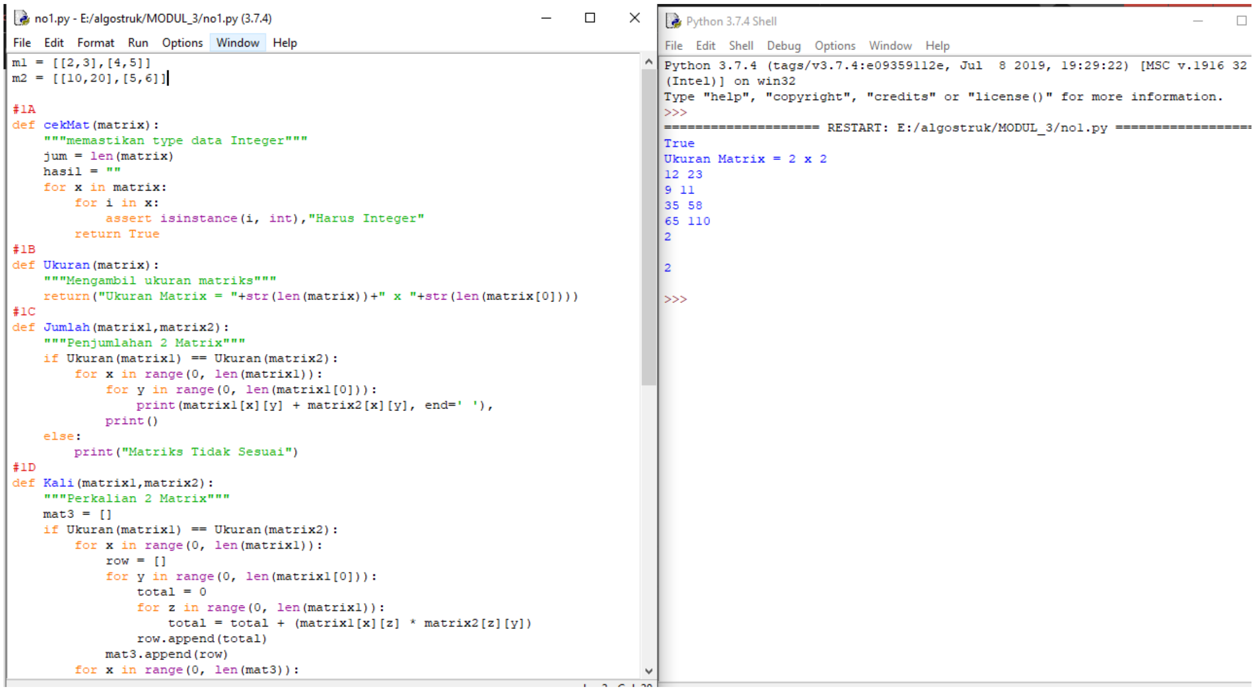
Nama : Edi Supriyanto

NIM : L200180002

Kelas : A

Tugas

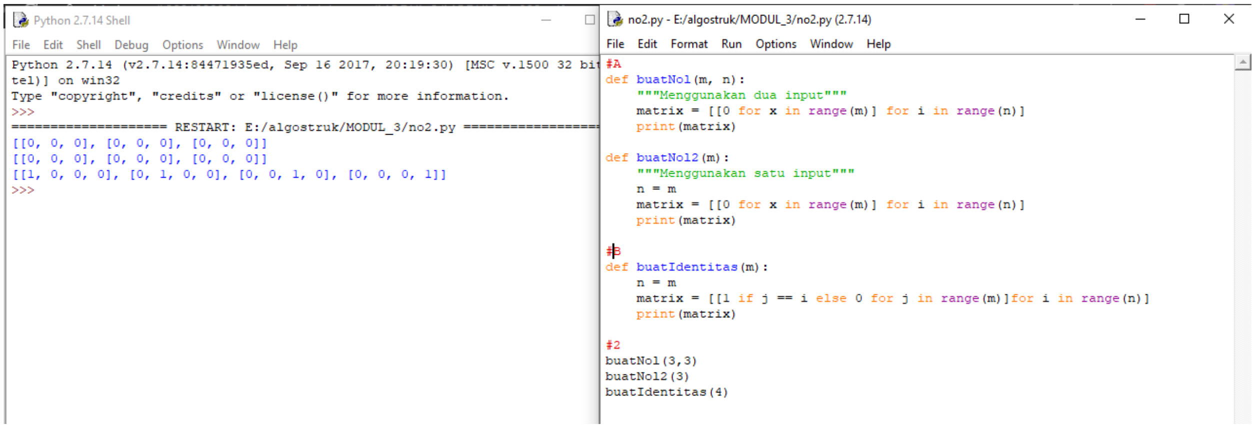
1.


no1.py - E:/algostruk/MODUL_3/no1.py (3.7.4)
File Edit Format Run Options Window Help
Python 3.7.4 Shell
File Edit Shell Debug Options Window Help

```
m1 = [[2,3],[4,5]]
m2 = [[10,20],[5,6]]

#1A
def cekMat(matrix):
    """memastikan type data Integer"""
    jum = len(matrix)
    hasil = ""
    for x in matrix:
        for i in x:
            assert isinstance(i, int),"Harus Integer"
        return True
#1B
def Ukuran(matrix):
    """Mengambil ukuran matriks"""
    return("Ukuran Matrix = "+str(len(matrix))+" x "+str(len(matrix[0])))
#1C
def Jumlah(matrix1,matrix2):
    """Penjumlahan 2 Matrix"""
    if Ukuran(matrix1) == Ukuran(matrix2):
        for x in range(0, len(matrix1)):
            for y in range(0, len(matrix1[0])):
                print(matrix1[x][y] + matrix2[x][y], end=' '),
            print()
    else:
        print("Matriks Tidak Sesuai")
#1D
def Kali(matrix1,matrix2):
    """Perkalian 2 Matrix"""
    mat3 = []
    if Ukuran(matrix1) == Ukuran(matrix2):
        for x in range(0, len(matrix1)):
            row = []
            for y in range(0, len(matrix1[0])):
                total = 0
                for z in range(0, len(matrix1)):
                    total = total + (matrix1[x][z] * matrix2[z][y])
                row.append(total)
            mat3.append(row)
        for x in range(0, len(mat3)):
```

```
Python 3.7.4 (tags/v3.7.4:e09359112e, Jul  8 2019, 19:29:22) [MSC v.1916 32
(Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
==================== RESTART: E:/algostruk/MODUL_3/no1.py ==================
True
Ukuran Matrix = 2 x 2
12 23
9 11
35 58
65 110
2

2

>>>
```

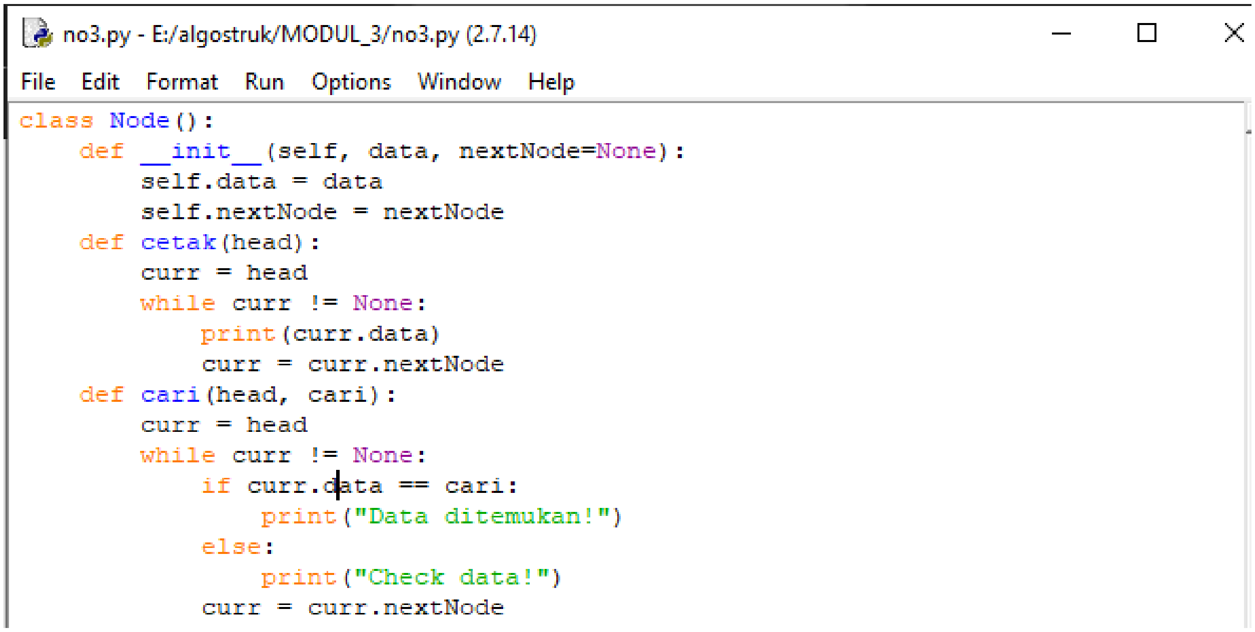
2.


Python 2.7.14 Shell
File Edit Shell Debug Options Window Help
no2.py - E:/algostruk/MODUL_3/no2.py (2.7.14)
File Edit Format Run Options Window Help

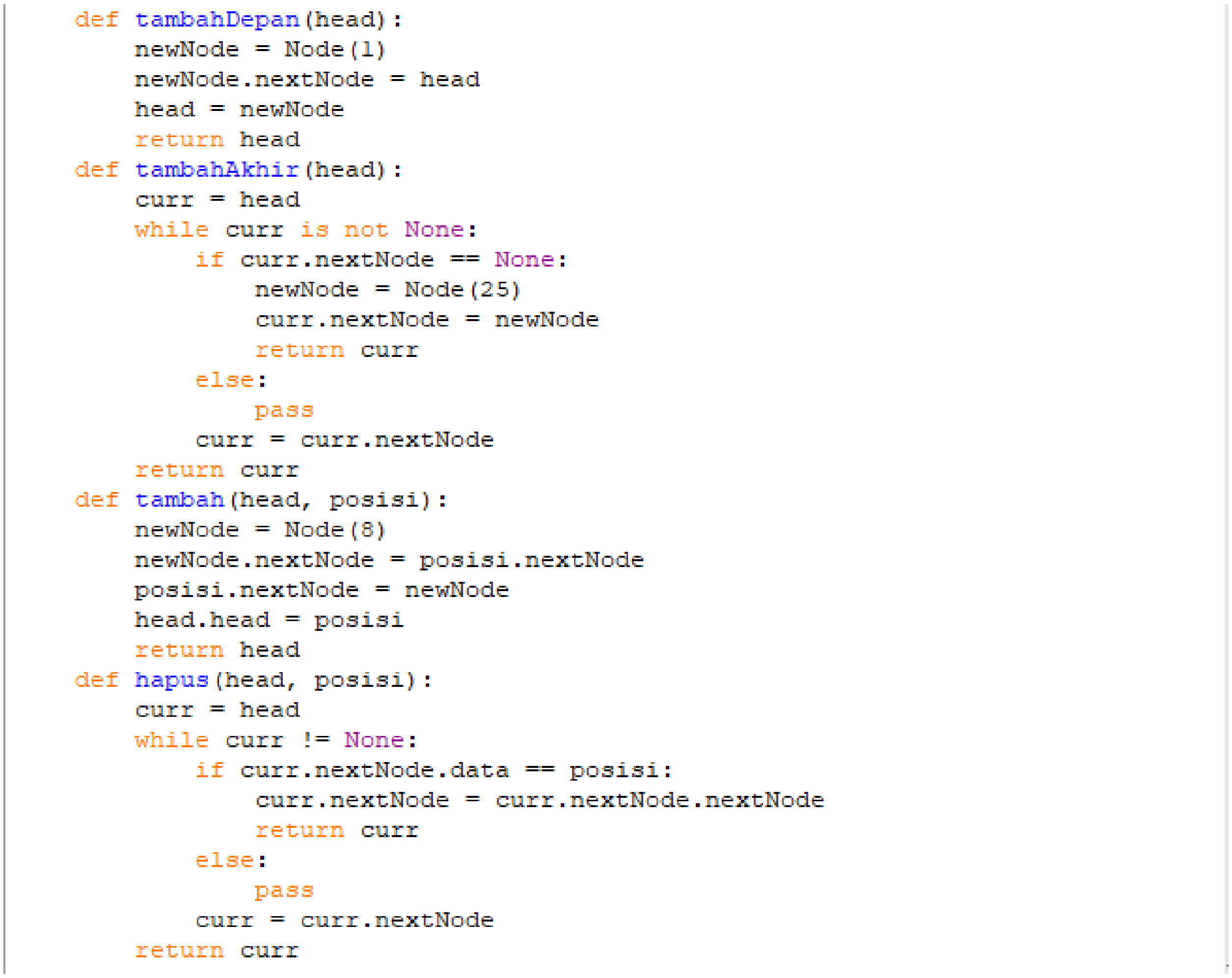
```
Python 2.7.14 (v2.7.14:84471935ed, Sep 16 2017, 20:19:30) [MSC v.1500 32 bi
tel)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
==================== RESTART: E:/algostruk/MODUL_3/no2.py ==================
[[0, 0, 0], [0, 0, 0], [0, 0, 0]]
[[0, 0, 0], [0, 0, 0], [0, 0, 0]]
[[1, 0, 0, 0], [0, 1, 0, 0], [0, 0, 1, 0], [0, 0, 0, 1]]
>>>
```

```
#A
def buatNol(m, n):
    """Menggunakan dua input"""
    matrix = [[0 for x in range(m)] for i in range(n)]
    print(matrix)

def buatNol2(m):
    """Menggunakan satu input"""
    n = m
    matrix = [[0 for x in range(m)] for i in range(n)]
    print(matrix)

#B
def buatIdentitas(m):
    n = m
    matrix = [[1 if j == i else 0 for j in range(m)]for i in range(n)]
    print(matrix)

#2
buatNol(3,3)
buatNol2(3)
buatIdentitas(4)
```

3.

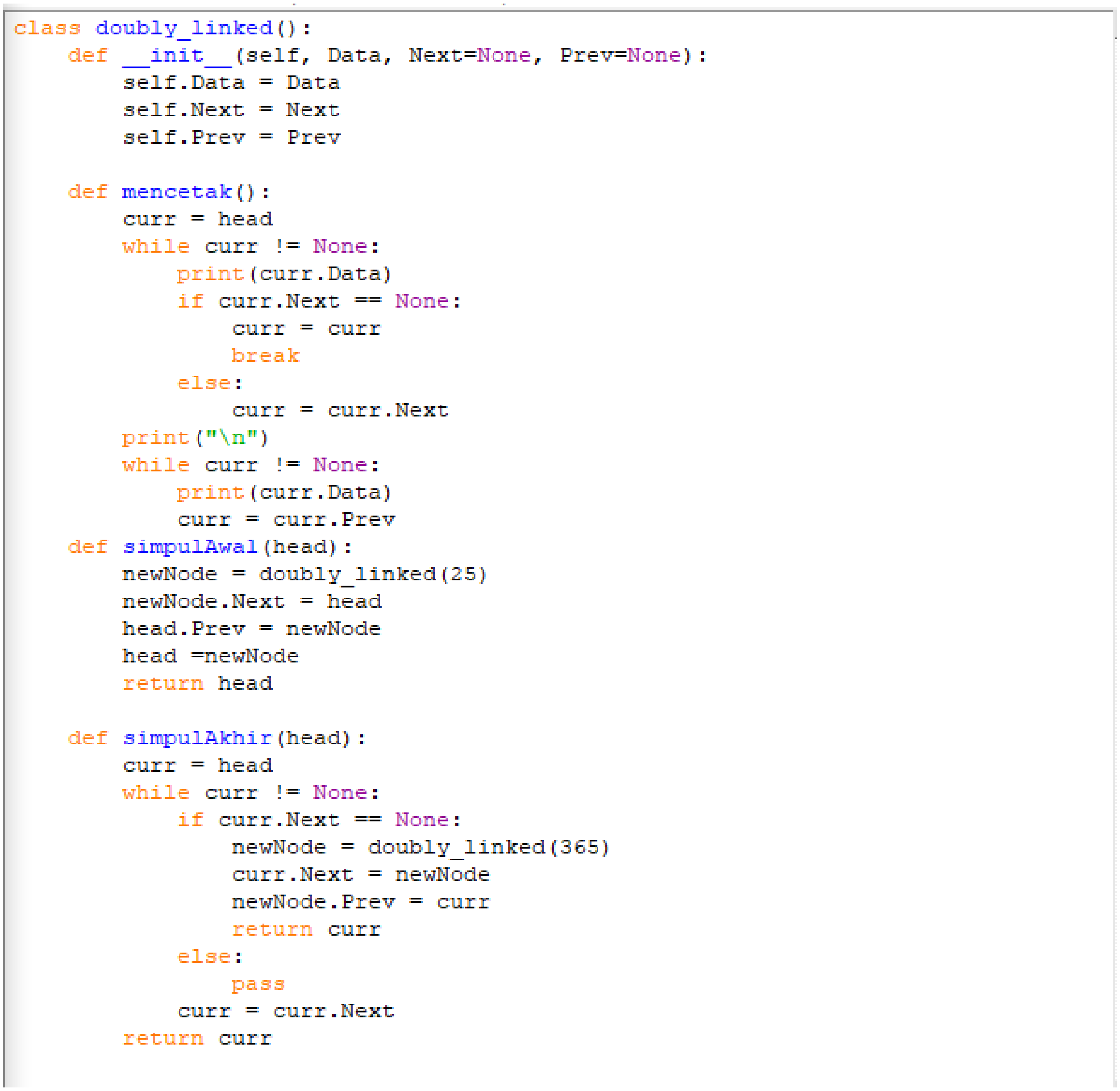

no3.py - E:/algostruk/MODUL_3/no3.py (2.7.14)
File Edit Format Run Options Window Help

```python
class Node():
    def __init__(self, data, nextNode=None):
        self.data = data
        self.nextNode = nextNode
    def cetak(head):
        curr = head
        while curr != None:
            print(curr.data)
            curr = curr.nextNode
    def cari(head, cari):
        curr = head
        while curr != None:
            if curr.data == cari:
                print("Data ditemukan!")
            else:
                print("Check data!")
            curr = curr.nextNode
```



```python
    def tambahDepan(head):
        newNode = Node(1)
        newNode.nextNode = head
        head = newNode
        return head
    def tambahAkhir(head):
        curr = head
        while curr is not None:
            if curr.nextNode == None:
                newNode = Node(25)
                curr.nextNode = newNode
                return curr
            else:
                pass
            curr = curr.nextNode
        return curr
    def tambah(head, posisi):
        newNode = Node(8)
        newNode.nextNode = posisi.nextNode
        posisi.nextNode = newNode
        head.head = posisi
        return head
    def hapus(head, posisi):
        curr = head
        while curr != None:
            if curr.nextNode.data == posisi:
                curr.nextNode = curr.nextNode.nextNode
                return curr
            else:
                pass
            curr = curr.nextNode
        return curr
```

4.



```
class doubly_linked():
    def __init__(self, Data, Next=None, Prev=None):
        self.Data = Data
        self.Next = Next
        self.Prev = Prev

    def mencetak():
        curr = head
        while curr != None:
            print(curr.Data)
            if curr.Next == None:
                curr = curr
                break
            else:
                curr = curr.Next
        print("\n")
        while curr != None:
            print(curr.Data)
            curr = curr.Prev
    def simpulAwal(head):
        newNode = doubly_linked(25)
        newNode.Next = head
        head.Prev = newNode
        head =newNode
        return head

    def simpulAkhir(head):
        curr = head
        while curr != None:
            if curr.Next == None:
                newNode = doubly_linked(365)
                curr.Next = newNode
                newNode.Prev = curr
                return curr
            else:
                pass
            curr = curr.Next
        return curr
```