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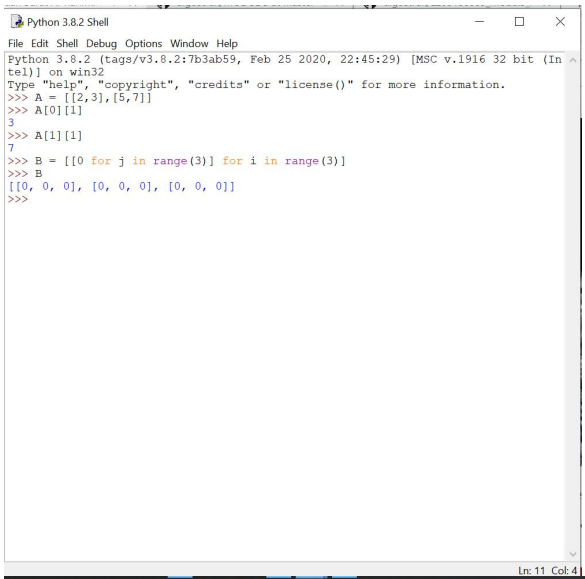
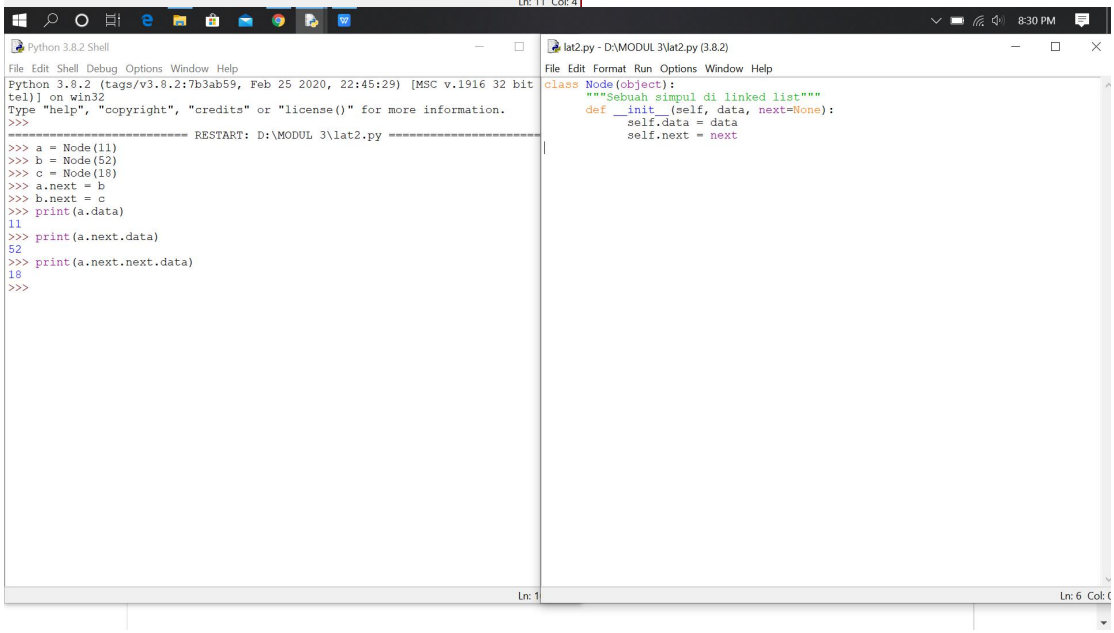
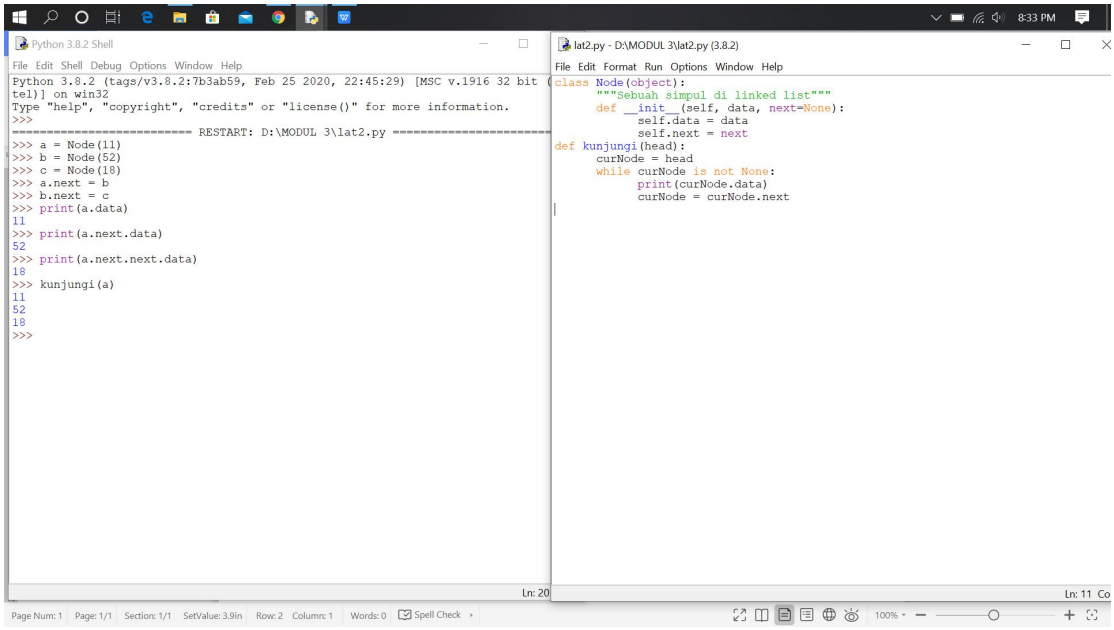
Kelas : A

LATIHAN

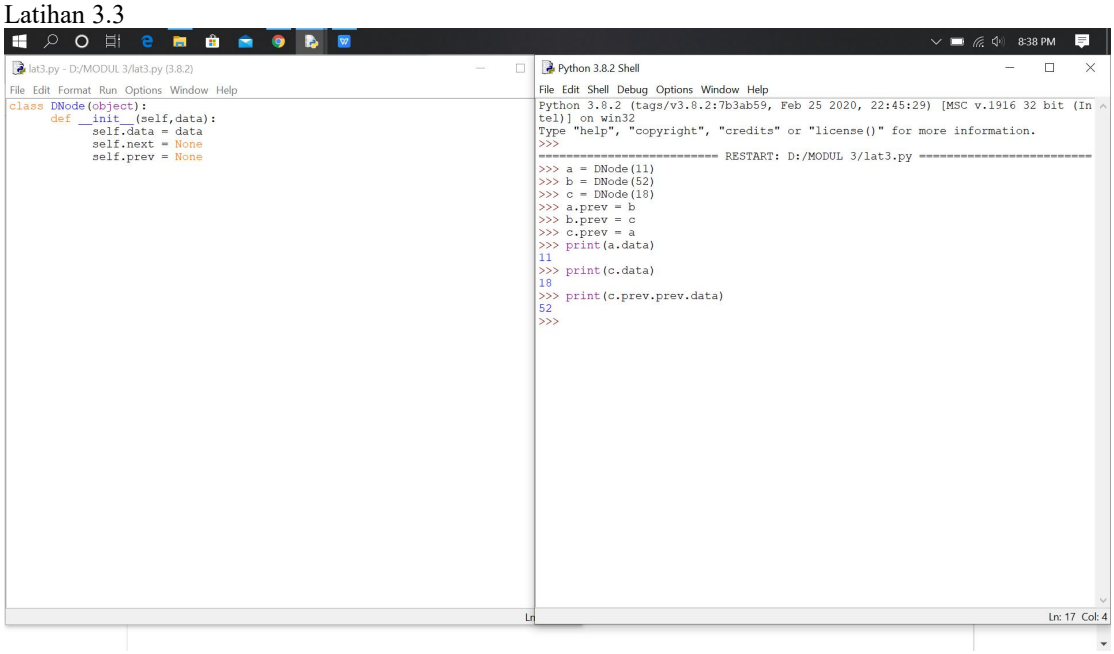
Latihan 3.1 dan 3.2






Python 3.8.2 Shell
File Edit Shell Debug Options Window Help
Python 3.8.2 (tags/v3.8.2:7b3ab59, Feb 25 2020, 22:45:29) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
========== RESTART: D:\MODUL 3\lat2.py ==========
>>> a = Node(11)
>>> b = Node(52)
>>> c = Node(18)
>>> a.next = b
>>> b.next = c
>>> print(a.data)
11
>>> print(a.next.data)
52
>>> print(a.next.next.data)
18
>>> kunjungi(a)
11
52
18
>>>
lat2.py - D:\MODUL 3\lat2.py (3.8.2)
File Edit Format Run Options Window Help
class Node(object):
"""Sebuah simpul di linked list"""
def __init__(self, data, next=None):
self.data = data
self.next = next
def kunjungi(head):
curNode = head
while curNode is not None:
print(curNode.data)
curNode = curNode.next

Latihan 3.3


lat3.py - D:/MODUL 3/lat3.py (3.8.2)
File Edit Format Run Options Window Help
class DNode(object):
def __init__(self,data):
self.data = data
self.next = None
self.prev = None
Python 3.8.2 Shell
File Edit Shell Debug Options Window Help
Python 3.8.2 (tags/v3.8.2:7b3ab59, Feb 25 2020, 22:45:29) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
========== RESTART: D:/MODUL 3/lat3.py ==========
>>> a = DNode(11)
>>> b = DNode(52)
>>> c = DNode(18)
>>> a.prev = b
>>> b.prev = c
>>> c.prev = a
>>> print(a.data)
11
>>> print(c.data)
18
>>> print(c.prev.prev.data)
52
>>>
Ln: 17 Col: 4

TUGAS

1.

11.py - D:/MODUL 3/11.py (3.8.2)

File Edit Format Run Options Window Help

```
#1a
def cekMatrik(matrix):
    panjang = len(matrix)
    hasil = True
    for x in matrix:
        lebar = len(x)
        if lebar != panjang:
            hasil = False
            break

        for i in x:
            if type(i) != int:
                hasil = False
                break
    return hasil

m1 = [[2,3],[4,5]]
m2 = [[10,20],[5,6]]
m3 = [[4,8,3],[2,"8",4],[3,6,8]]
m4 = [[6,2,7],[2,8]]

print("m1 =", cekMatrik(m1))
print("m2 =", cekMatrik(m2))
print("m3 =", cekMatrik(m3))
print("m4 =", cekMatrik(m4))
```

```
m1 = True
m2 = True
m3 = False
m4 = False
```

```
#1b
def Ukuran(matrix):
    return ("Ukuran matrix = "+str(len(matrix))+" x "+str(len(matrix[0])))

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

print(Ukuran(m1))
print(Ukuran(m2))
```

```
Ukuran matrix = 2 x 2
Ukuran matrix = 2 x 2
```

```
#1c
a = [[1,2],[3,4]]
b = [[7,2],[1,4]]
c = [[1,"a","b"],[3,4,"c"]]
d = [[2,1],[3,4],[6,5]]
e = [[3,2,1],[5,4,3]]
f = [[1,2,3],[4,5,6],[1,5,6]]

def jumlah(n,m):
    x,y = 0,0
    for i in range(len(n)):
        x+=1
        y = len(n[i])
    xy = [[0 for j in range(x)] for i in range(y)]

    z = 0
    if(len(n)==len(m)):
        for i in range(len(n)):
            if(len(n[i]) == len(m[i])):
                z+=1
    if(z==len(n) and z==len(m)):
        print("Ukuran sama")
        for i in range(len(n)):
            for j in range(len(n[i])):
                xy[i][j] = n[i][j] + m[i][j]
        print(xy)
    else:
        print("Ukuran beda")

jumlah(a,b)
jumlah(a,d)
```

```
Ukuran sama
[[8, 4], [4, 8]]
Ukuran beda
```

```
#1d
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("Dapat 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)):
                    #print(n[i][k], m[k][j])
                    vwxy[i][j] += n[i][k] * m[k][j]
        print(vwxy)

    else:
        print("Tidak memenuhi syarat")

zz = [[1,2,3],[1,2,3]]
zx = [[1],[2],[3]]
kali(zz,zx)
kali(a,b)
kali(a,e)
kali(a,zx)
```

```
Dapat Dikalikan
[[14], [14]]
Dapat Dikalikan
[[9, 10], [25, 22]]
Dapat Dikalikan
[[13, 10, 7], [29, 22, 15]]
Tidak memenuhi syarat
```

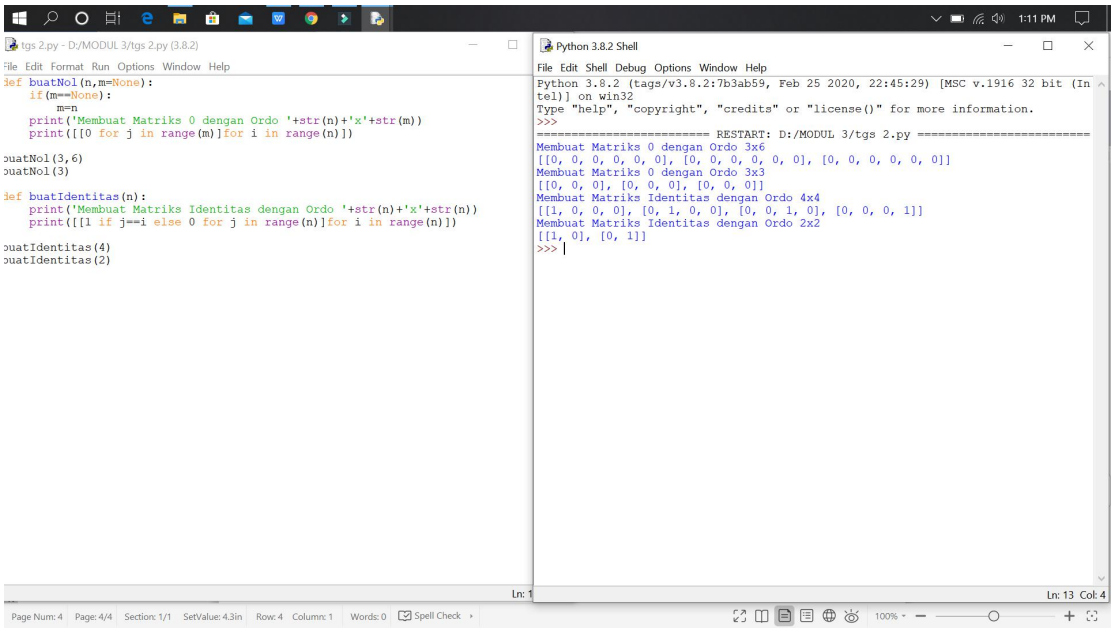
```
#le
def determHitung(A, total=0):
    x = len(A[0])
    z = 0
    for i in range(len(A)):
        if (len(A[i]) == x):
            z+=1
    if(z == len(A)):
        if(x==len(A)):
            indices = list(range(len(A)))
            if len(A) == 2 and len(A[0]) == 2:
                val = A[0][0] * A[1][1] - A[1][0] * A[0][1]
                return val
            for fc in indices:
                As = A
                As = As[1:]
                height = len(As)
                for i in range(height):
                    As[i] = As[i][0:fc] + As[i][fc+1:]
                sign = (-1) ** (fc % 2)
                sub_det = determHitung(As)
                total += sign * A[0][fc] * sub_det
        else:
            return "Tidak bisa dihitung determinan, bukan matrix bujursangkar"
    else:
        return "Tidak bisa dihitung determinan, bukan matrix bujursangkar"
    return total


z = [[4,2],[1,7]]
x = [[3,4,5],[1,3,2],[1,2,3]]
v = [[2,-3,0,0],[2,1,-5,2],[3,1,3,5],[6,7,-8,4]]
r = [[10,22,44,11,12],[2,2,1,1,9],[1,2,3,4,5],[5,2,5,3,8],[1,2,5,3,11]]
print(determHitung(z))
print(determHitung(x))
print(determHitung(v))
print(determHitung(r))
print(determHitung(d))
print(determHitung(e))
```

Ln: 95 Col:

```
26
6
-532
9642
Tidak bisa dihitung determinan, bukan matrix bujursangkar
Tidak bisa dihitung determinan, bukan matrix bujursangkar
```

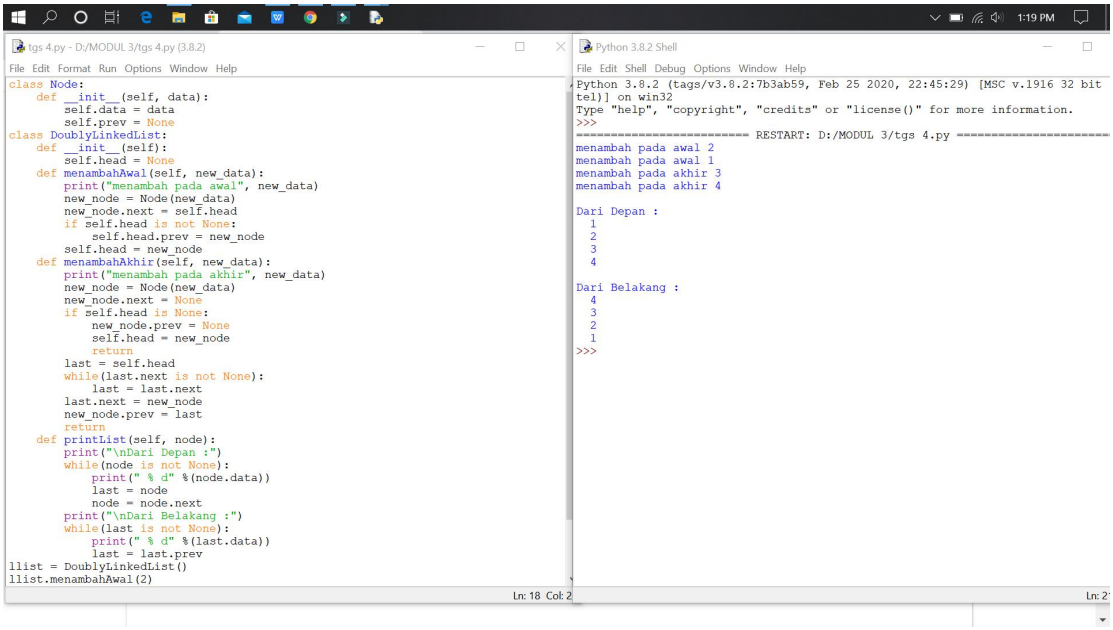
2.



3.


tgs 3.py - D:/MODUL 3/tgs 3.py (3.8.2)
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 pushAwal(self, new_data):
new_node = Node(new_data)
new_node.next = self.head
self.head = new_node
def pushAkhir(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, position):
if self.head == None:
Ln: 83 Col: 15
tgs 3.py - D:/MODUL 3/tgs 3.py (3.8.2)
File Edit Format Run Options Window Help
temp = None
return
for i in range(position -1):
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:
return "True"
current = current.next
return "False"
def display(self):
current = self.head
while current is not None:
print(current.data, end = ' ')
current = current.next
llist = LinkedList()
llist.pushAwal(12)
llist.pushAwal(13)
llist.pushAwal(14)
llist.pushAwal(15)
llist.pushAwal(3)
llist.pushAwal(17)
llist.pushAkhir(18)
llist.hapus(0)
llist.tambah(1,4)
print(llist.cari(13))
print(llist.cari(16))
llist.display()
Ln: 84 Col:
True
False
3 15 14 13 1 12 18
>>>

4.


1:19 PM
tgs 4.py - D:/MODUL 3/tgs 4.py (3.8.2)
File Edit Format Run Options Window Help
class Node:
def __init__(self, data):
self.data = data
self.prev = None
class DoublyLinkedList:
def __init__(self):
self.head = None
def menambahAwal(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 menambahAkhir(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
llist = DoublyLinkedList()
llist.menambahAwal(2)
Ln: 18 Col: 2
Python 3.8.2 Shell
File Edit Shell Debug Options Window Help
Python 3.8.2 (tags/v3.8.2:7b3ab59, Feb 25 2020, 22:45:29) [MSC v.1916 32 bit
tel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
========== RESTART: D:/MODUL 3/tgs 4.py ==========
menambah pada awal 2
menambah pada awal 1
menambah pada akhir 3
menambah pada akhir 4
Dari Depan :
1
2
3
4
Dari Belakang :
4
3
2
1
>>>
Ln: 2