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TUGAS : MODUL3

NO.1

```
Thonny - C:\Users\ASUS\Documents\tugas 1.py @ 49:14
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tugas 1.py x
1 x = [[12,7,3],
2     [4,5,6],
3     [1,3,4]]
4
5 y = [[5,8,1],
6     [6,7,3],
7     [2,5,3]]
8
9 def cek(x):
10     for i in range(len(x)):
11         if len(x[0])!=len(x[i]):
12             pass
13
14         else:
15             print('error')
16             break
17
18 cek(x)
19
20 def tambah(x,y):

Shell x
Python 3.7.7 (bundled)
>>> %cd 'C:\Users\ASUS\Documents'
>>> %Run 'tugas 1.py'

108 160 42
62 97 37
31 49 22
-2
>>> |
```

```
Thonny - C:\Users\ASUS\Documents\tugas 1.py @ 23:47
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tugas 1.py x
19
20 def tambah(x,y):
21     for i in range(len(x)):
22         for j in range(len(x[0])):
23             print(x[i][j] + y[i][j],end=' ')
24             print()
25
26 def kali(x,y):
27     a=[]
28     for i in range(0, len(x)):
29         row = []
30         for j in range(0, len(x[0])):
31             total = 0
32             for z in range(0, len(x)):
33                 total = total + (x[i][z] * y[z][j])
34             row.append(total)
35         a.append(row)
36
37     for i in range(0, len(a)):
38         for j in range(0, len(a[0])):

Shell x
Python 3.7.7 (bundled)
>>> %cd 'C:\Users\ASUS\Documents'
>>> %Run 'tugas 1.py'

108 160 42
62 97 37
31 49 22
-2
>>>
```

Thonny - C:\Users\ASUS\Documents\tugas 1.py @ 23:47

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tugas 1.py

```
30     for j in range(0, len(x[0])):
31         total = 0
32         for z in range(0, len(x)):
33             total = total + (x[i][z] * y[z][j])
34         row.append(total)
35     a.append(row)
36
37     for i in range(0, len(a)):
38         for j in range(0, len(a[0])):
39             print(a[i][j], end=' ')
40         print()
41
42     kali(x,y)
43
44     def determinan(x):
45         d=(x[0][0]*x[1][1])-(x[0][1]*x[1][0])
46         print(d)
47
48     a=[[2,3],[4,5]]
49     determinan(a)
```

Shell

Python 3.7.7 (bundled)

```
>>> %cd 'C:\Users\ASUS\Documents'
>>> %Run 'tugas 1.py'

108 160 42
62 97 37
31 49 22
-2

>>>
```

NO.2

Thonny - C:\Users\ASUS\Documents\tugas 2.py @ 30:13

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tugas 1.py tugas 2.py

```
1 def buatno1(x,y):
2     a=[[0 for i in range(x)] for j in range(y)]
3     print("array: ",a)
4     print("matrik:")
5     for i in range(len(a)):
6         for j in range(len(a[0])):
7             print(a[i][j], end=' ')
8         print()
9
10
11 def buatno2(x):
12     a=[[0 for i in range(x)] for j in range(x)]
13     print("array: ",a)
14     print("matrik:")
15     for i in range(len(a)):
16         for j in range(len(a[0])):
17             print(a[i][j], end=' ')
18         print()
19
20
```

Shell

```
>>> from tugas 2.py
[[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]]
=====
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

>>>
```

```
Thonny - C:\Users\ASUS\Documents\tugas 2.py @ 30:13
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tugas 1.py x tugas 2.py x
11 def buatno2(x):
12     a=[[0 for i in range(x)] for j in range(x)]
13     print("array: ",a)
14     print("matrik:")
15     for i in range(len(a)):
16         for j in range(len(a[0])):
17             print(a[i][j], end=' ')
18         print()
19
20
21 def identitas(x):
22     a=[[1 if j==i else 0 for i in range(x)] for j in range(x)]
23     print(a)
24     print("=====")
25     for i in range(len(a)):
26         for j in range(len(a[0])):
27             print(a[i][j], end=' ')
28         print()
29
30 identitas(5)

Shell x
[[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]]
=====
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
>>>
```

NO.3

```
Thonny - C:\Users\ASUS\Documents\tugas 3.py @ 53:25
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tugas 1.py x tugas 2.py x tugas 3.py x
1 class Node():
2     def __init__(self,data,next=None):
3         self.data=data
4         self.next=next
5 #mencari data
6 def cari(head,x):
7     cnode=head
8     position=0
9     while cnode is not None:
10         position+=1
11         if cnode.data == x:
12             print(cnode.data," di posisi:",position)
13             break
14         else:
15             cnode = cnode.next
16 class LinkedList:
17     def __init__(self):
18         self.head = None
19 # menambah data menjadi head
20 def tambahHead(self, new_data):
```

```
Thonny - C:\Users\ASUS\Documents\tugas 3.py @ 53:25
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tugas 1.py x tugas 2.py x tugas 3.py x
19 # menambah data menjadi head
20 def tambahHead(self, new_data):
21     new_node = Node(new_data)
22     new_node.next = self.head
23     self.head = new_node
24 # menambah data menjadi tail
25 def tambahAkhir(self, data):
26     if (self.head == None):
27         self.head = Node(data)
28     else:
29         current = self.head
30         while (current.next != None):
31             current = current.next
32         current.next = Node(data)
33     return self.head
34 #menghapus data
35 def hapusNode(self, position):
36     if self.head == None:
37         return
38     temp = self.head
```

```
Thonny - C:\Users\ASUS\Documents\tugas 3.py @ 53:25
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tugas 1.py x tugas 2.py x tugas 3.py x
34 #menghapus data
35 def hapusNode(self, position):
36     if self.head == None:
37         return
38     temp = self.head
39     if position == 0:
40         self.head = temp.next
41         temp = None
42         return
43     for i in range(position -1 ):
44         temp = temp.next
45         if temp is None:
46             break
47     if temp is None:
48         return
49     if temp.next is None:
50         return
51     next = temp.next.next
52     temp.next = None
53     temp.next = next
```

NO.4

```
Thonny - C:\Users\ASUS\Documents\tugas 4.py @ 36:29
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tugas 1.py x tugas 2.py x tugas 3.py x tugas 4.py x
1 class Node:
2     def __init__(self, data):
3         self.data = data
4         self.prev = None
5 class DoublyLinkedList:
6     def __init__(self):
7         self.head = None
8     def tambahawal(self, x):
9         new = Node(x)
10        new.next = self.head
11        if self.head is not None:
12            self.head.prev = new
13        self.head = new
14    def tambahakhir(self, x):
15        new = Node(x)
16        new.next = None
17        if self.head is None:
18            new.prev = None
19            self.head = new
20        return
```



tugas 1.py × tugas 2.py × tugas 3.py × tugas 4.py ×

```
17     if self.head is None:
18         new.prev = None
19         self.head = new
20         return
21     last = self.head
22     while(last.next is not None):
23         last = last.next
24     last.next = new
25     new.prev = last
26     return
27 def printList(self, node):
28     print("\nDari Depan :")
29     while(node is not None):
30         print(" % d" %(node.data))
31         last = node
32         node = node.next
33     print("\nDari Belakang :")
34     while(last is not None):
35         print(" % d" %(last.data))
36         last = last.prev
```

Shell ×

```
=====
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

>>> %Run 'tugas 3.py'
>>> %Run 'tugas 4.py'
>>>
```