TUGAS PRAKTIKUM
ALGORITMA DAN STRUKTUR DATA
MODUL 3. COLLECTIONS, ARRAYS, AND LINKED STRUCTURES

3.4 Soal-soal untuk Mahasiswa

1.

2.

```python
#2A
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)

#2B
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)
```

```
Python 3.8.1 (tags/v3.8.1:1b293b6, Dec 18 2019, 22:39:24) [MSC v.1916 32 bit (Int
el)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
==================== RESTART: A:\P_ASD\Modul 3\Kode\Tugas 2.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]]
>>>
```

3.

```python
#3
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
    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
```

```python
    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
```
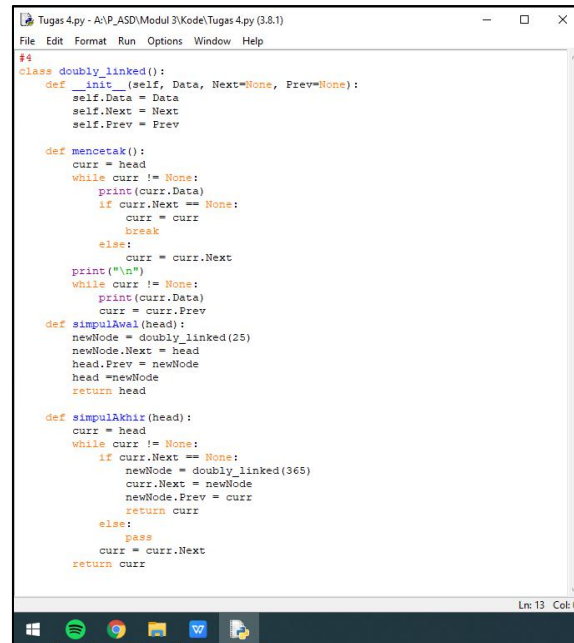
4.

```
Tugas 4.py - A:\P_ASD\Modul 3\Kode\Tugas 4.py (3.8.1)                    —    □    ×
File  Edit  Format  Run  Options  Window  Help
#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
                                                          Ln: 13  Col: 0
```