



STRUKTUR DATA – TI.20.B.1
TEKNIK INFORMATIKA – UNIVERSITAS PELITA BANGSA
TUGAS PERTEMUAN – 10

Nama : Febro Herdyanto
NIM : 312010043

Mata Kuliah : Struktur Data
Dosen : Candra Naya,S.Kom.,M.Kom

SOAL :

1. Buatlah program double linked list non circular dengan menggunakan head, namun head yang ada tidak digunakan untuk menyimpan data, melainkan untuk menyimpan jumlah seluruh elemen dalam linked list.
2. Buatlah fungsi lengkap untuk tambah, hapus, lihat, dan edit!
3. Buatlah pula function untuk menampilkan data list secara terbalik!

JAWABAN :

Source Code :

```
print('=====')
print('Nama : Febro Herdyanto')
print('NIM : 312010043')
print('Kelas : TI.20.B.1')
print('Task : Double Linked List Non Circular')
print('=====')

class Node:
    def __init__(self, initdata):
        self.data = initdata
        self.next = None
        self.previous = None
    def getData(self):
        return self.data
    def getNext(self):
        return self.next
    def getPrevious(self):
        return self.previous
    def setData(self, newdata):
        self.data = newdata
    def setNext(self, newnext):
        self.next = newnext
    def setPrevious(self, newprevious):
        self.previous = newprevious

class Unorderedlist:
    def __init__(self):
        self.head = None
    def show(self):
        current = self.head
        print('None <-')
        print('Head ->', end='')
        while current != None:
            if current.getNext() == None:
                print(current.getData(), end='->')
            else:
                print(current.getData(), end='<->')
                current = current.getNext()
        print('None')
    def isEmpty(self):
        return self.head == None
    def add(self, item):
        temp = Node(item)
        temp.setNext(self.head)
        temp.setPrevious(None)
        self.head = temp
    def size(self):
        current = self.head
        count = 0
        while current != None:
            count += 1
            current = current.getNext()
        return count
    def search(self, item):
        current = self.head
        found = False
        while current != None and not found:
            if current.getData() == item:
                found = True
            else:
                current = current.getNext()
        return found
```



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```
def remove(self, item):
    current = self.head
    previous = None
    found = False
    while current != None and not found:
        if current.getData() == item:
            found = True
        else:
            previous = current
            current = current.getNext()
            if current == None:
                next = None
            else:
                next = current.getNext()

    if previous == None:
        self.head = current.getNext()
    else:
        if current == None:
            previous.setNext(None)
        else:
            previous.setNext(current.getNext())
        if next != None:
            next.setPrevious(current.getPrevious())
    if current is None:
        print('Data not in list')

mylist = Unorderedlist()
mylist.add(31)
mylist.add(11)
mylist.add(15)
mylist.add(30)
mylist.show()
```

```
programs-p10 x
"C:\Users\febri\OneDrive\PELITA BANGSA - FEBRO HERDYANTO\AKTIFITAS PERKULIAHAN\SEMESTER 2\MPUT114 - Struktur Data\s
=====
Nama : Febro Herdyanto
NIM : 312010043
Kelas : TI.20.B.1
Task : Double Linked List Non Circular
=====
None <-
Head ->30<->15<->11<->31->None

Process finished with exit code 0
```