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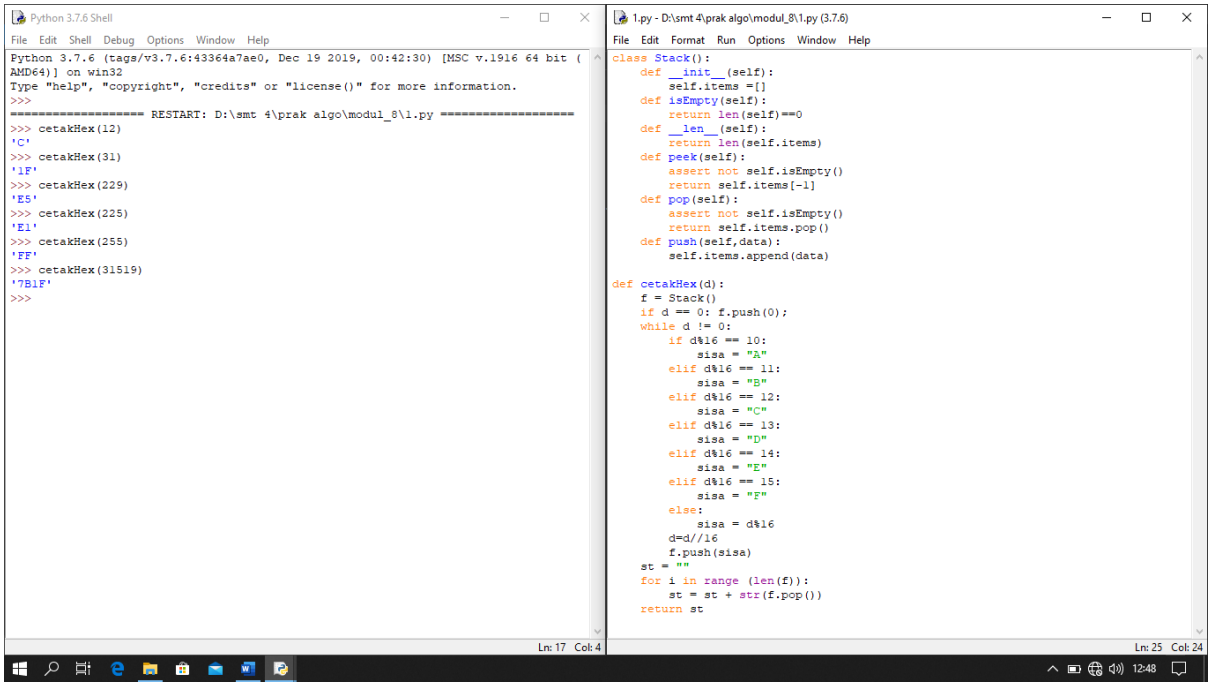
NIM : L200180101
Kelas : D

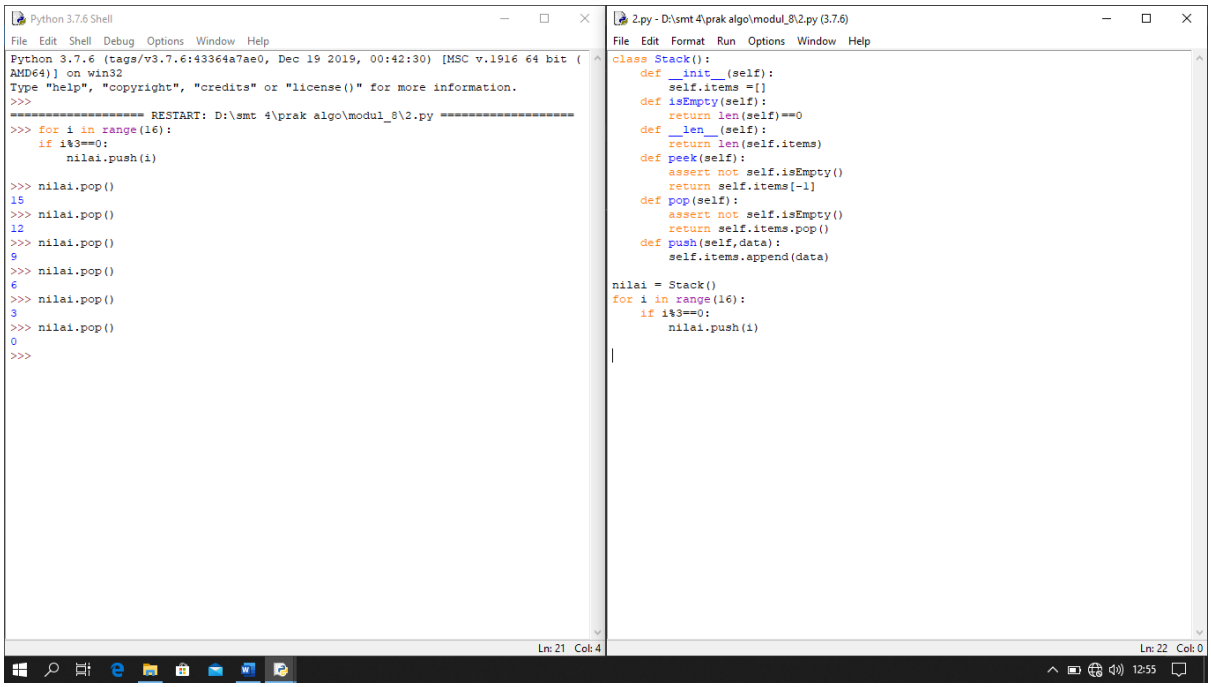
Prak-ASD

Modul 8

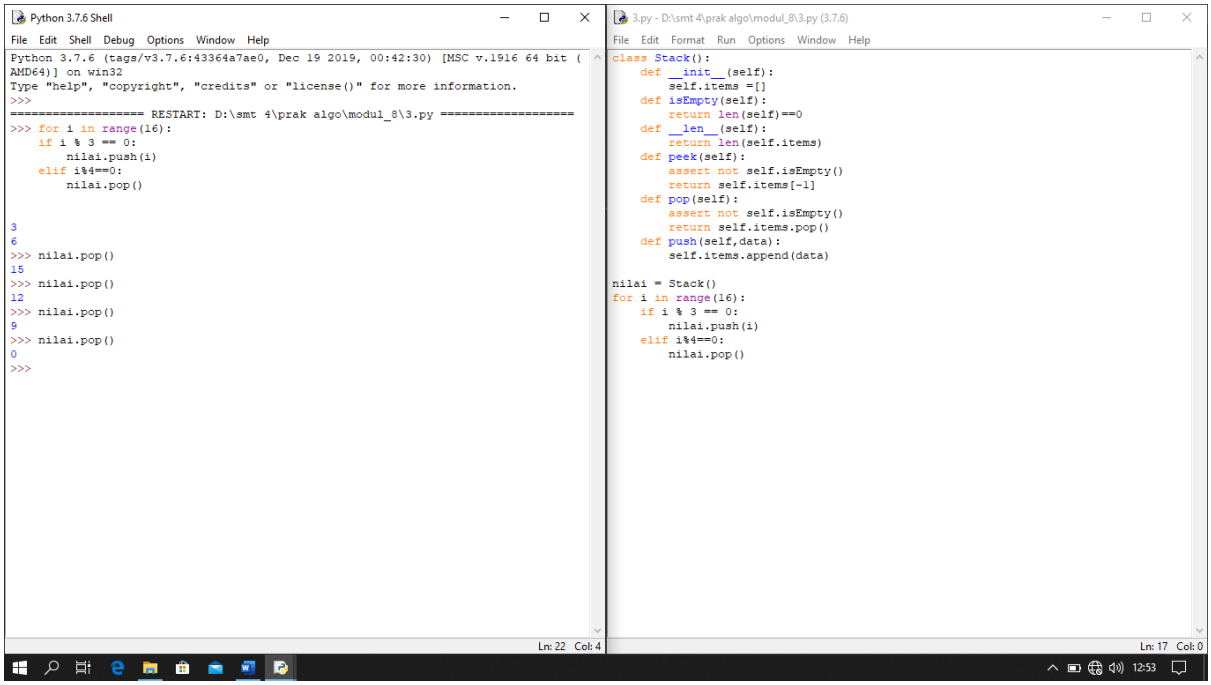
1). Buatlah Program untuk mengubah reprentasi suatu bilangan dari basis sepuluh ke basis dua.



2). Eksekusi program berikut. Dan tunjukan isi stacknya



3). Eksekusi program berikut. Dan tunjukan isi stacknya



```
Python 3.7.6 Shell
File Edit Shell Debug Options Window Help
Python 3.7.6 (tags/v3.7.6:43364a7ae0, Dec 19 2019, 00:42:30) [MSC v.1916 64 bit (
AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
========== RESTART: D:\smt 4\prak algo\modul_8\3.py ==========
>>> for i in range(16):
    if i % 3 == 0:
        nilai.push(i)
    elif i%4==0:
        nilai.pop()

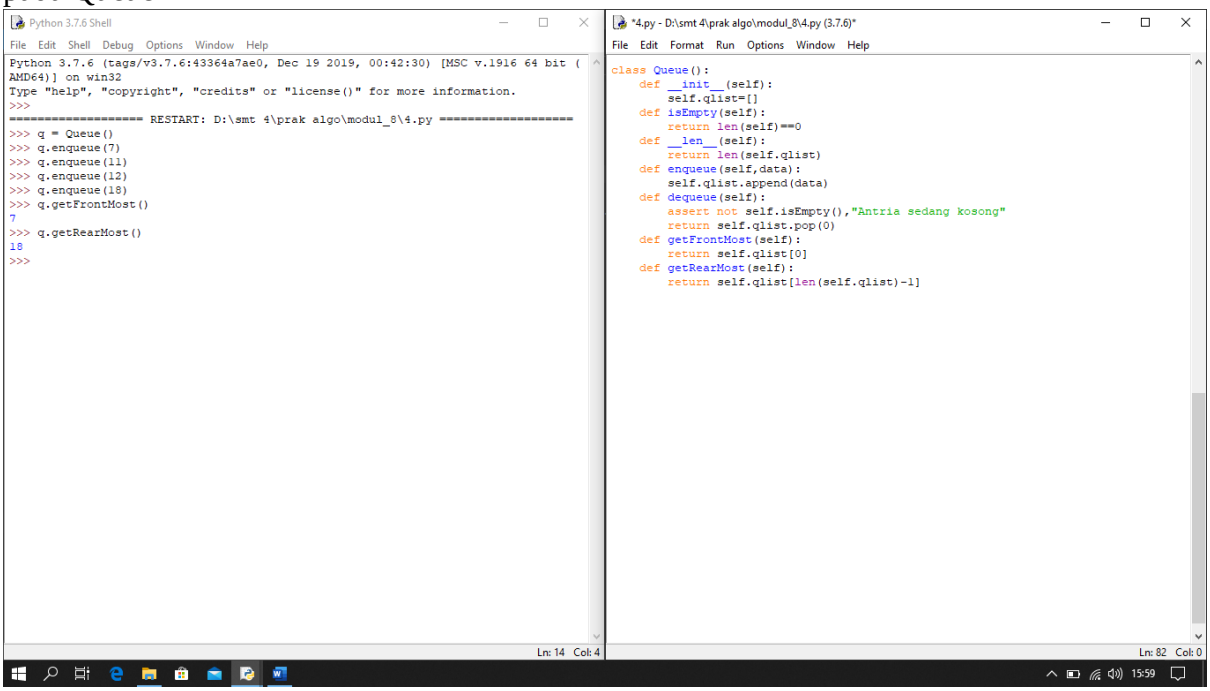

3
6
>>> nilai.pop()
15
>>> nilai.pop()
12
>>> nilai.pop()
9
>>> nilai.pop()
0
>>>
```

```
3.py - D:\smt 4\prak algo\modul_8\3.py (3.7.6)
File Edit Format Run Options Window Help
class Stack():
    def __init__(self):
        self.items =[]
    def isEmpty(self):
        return len(self)==0
    def __len__(self):
        return len(self.items)
    def peek(self):
        assert not self.isEmpty()
        return self.items[-1]
    def pop(self):
        assert not self.isEmpty()
        return self.items.pop()
    def push(self,data):
        self.items.append(data)

nilai = Stack()
for i in range(16):
    if i % 3 == 0:
        nilai.push(i)
    elif i%4==0:
        nilai.pop()
```

4). Tulis dua metode berikut ke kelas Queue dan class PriorityQueue

- Metode untuk mengetahui item yang paling depan dan belakang tanpa menghapusnya pada Queue



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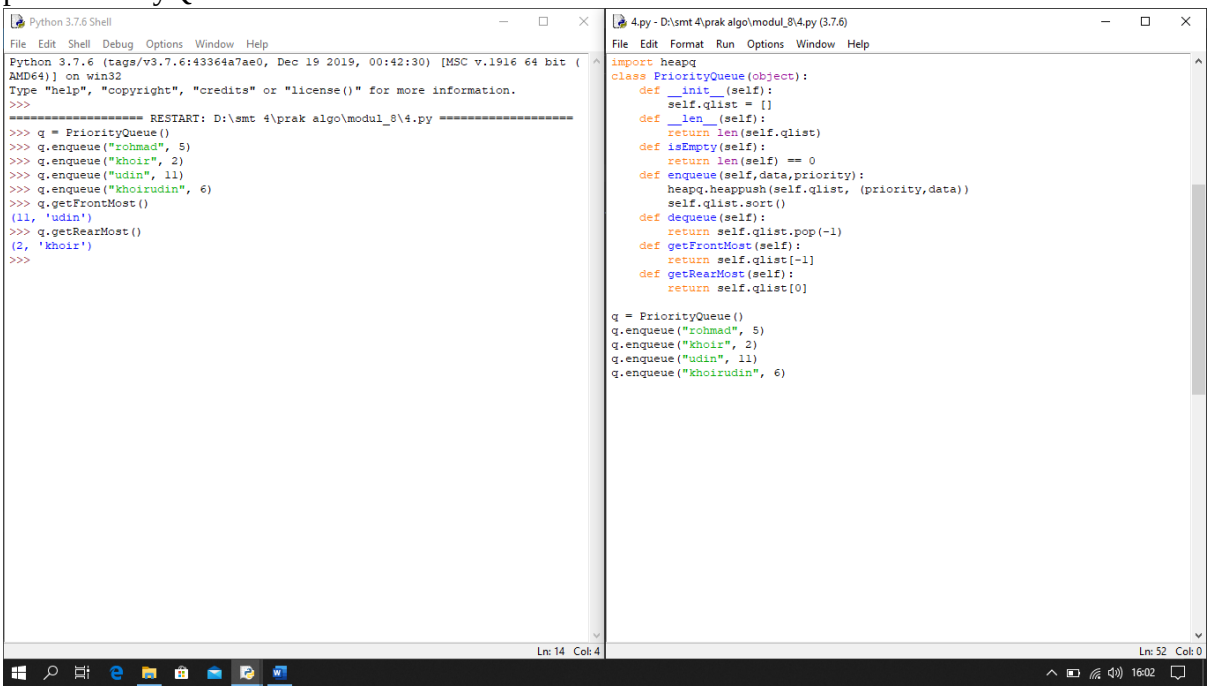
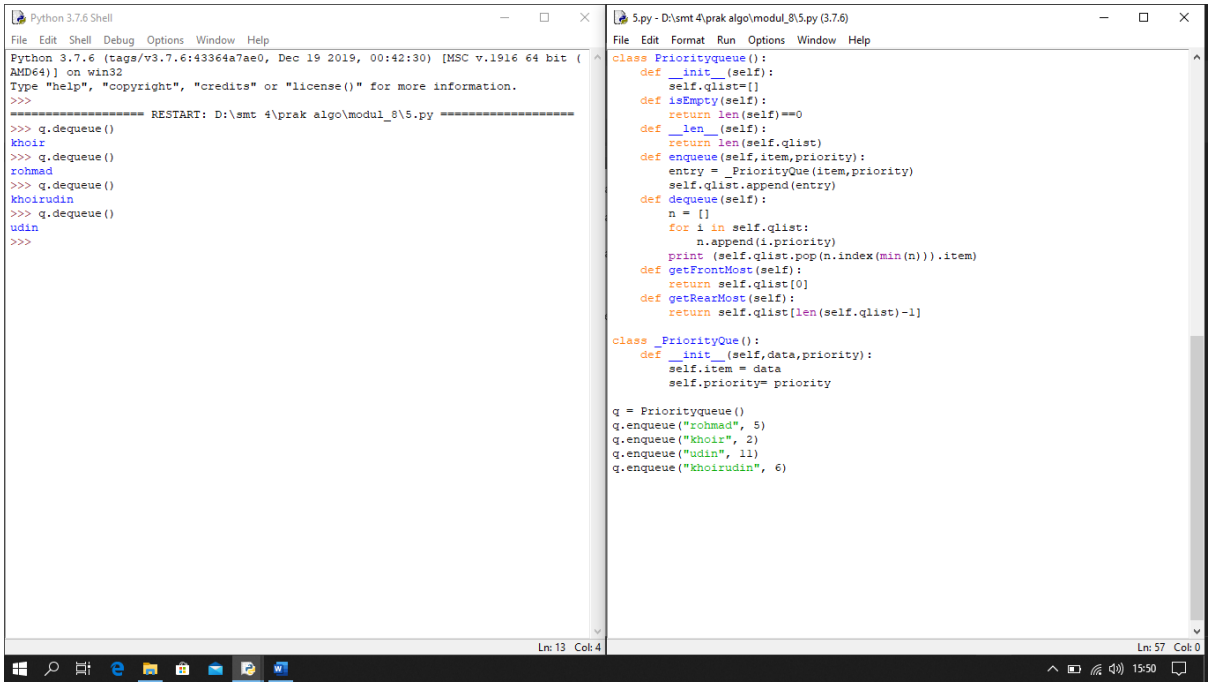
Python 3.7.6 Shell
File Edit Shell Debug Options Window Help
Python 3.7.6 (tags/v3.7.6:43364a7ae0, Dec 19 2019, 00:42:30) [MSC v.1916 64 bit (
AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
========== RESTART: D:\smt 4\prak algo\modul_8\4.py ==========
>>> q = Queue()
>>> q.enqueue(7)
>>> q.enqueue(11)
>>> q.enqueue(12)
>>> q.enqueue(18)
>>> q.getFrontMost()
7
>>> q.getRearMost()
18
>>>
```

```
*4.py - D:\smt 4\prak algo\modul_8\4.py (3.7.6)*
File Edit Format Run Options Window Help
class Queue():
    def __init__(self):
        self.qlist=[]
    def isEmpty(self):
        return len(self)==0
    def __len__(self):
        return len(self.qlist)
    def enqueue(self,data):
        self.qlist.append(data)
    def dequeue(self):
        assert not self.isEmpty(),"Antria sedang kosong"
        return self.qlist.pop(0)
    def getFrontMost(self):
        return self.qlist[0]
    def getRearMost(self):
        return self.qlist[len(self.qlist)-1]
```

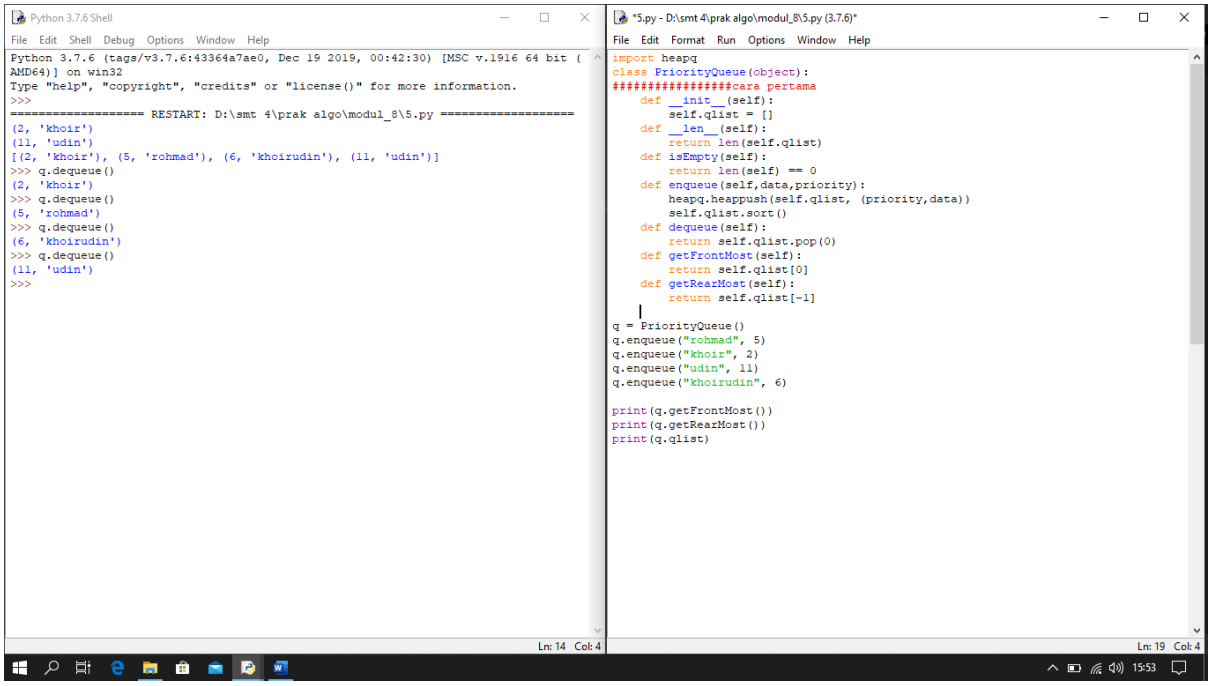
- Metode untuk mengetahui item yang paling depan dan belakang tanpa menghapusnya pada PriorityQueue



5). Pada Class PriorityQueue pada latiahan, metode dequeue() belum diimplementasikan. Tulisakan metode dequeuenya



Atau bisa juga dengan


Python 3.7.6 Shell
File Edit Shell Debug Options Window Help
Python 3.7.6 (tags/v3.7.6:43364a7ae0, Dec 19 2019, 00:42:30) [MSC v.1916 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
========== RESTART: D:\smt 4\prak algo\modul_8\5.py ==========
(2, 'khoir')
(11, 'udin')
[(2, 'khoir'), (5, 'rohmad'), (6, 'khoirudin'), (11, 'udin')]
>>> q.dequeue()
(2, 'khoir')
>>> q.dequeue()
(5, 'rohmad')
>>> q.dequeue()
(6, 'khoirudin')
>>> q.dequeue()
(11, 'udin')
>>>
Ln: 14 Col: 4
5.py - D:\smt 4\prak algo\modul_8\5.py (3.7.6)
File Edit Format Run Options Window Help
import heapq
class PriorityQueue(object):
##################cara pertama
def __init__(self):
self.qlist = []
def __len__(self):
return len(self.qlist)
def isEmpty(self):
return len(self) == 0
def enqueue(self,data,priority):
heapq.heappush(self.qlist, (priority,data))
self.qlist.sort()
def dequeue(self):
return self.qlist.pop(0)
def getFrontMost(self):
return self.qlist[0]
def getRearMost(self):
return self.qlist[-1]
q = PriorityQueue()
q.enqueue("rohmad", 5)
q.enqueue("khoir", 2)
q.enqueue("udin", 11)
q.enqueue("khoirudin", 6)
print(q.getFrontMost())
print(q.getRearMost())
print(q.qlist)
Ln: 19 Col: 4
15:53