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QUEUES

Nomor 4

- **Class Queue**

```
print("Class Queue")
class Queue(object):
    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()
        return self.qlist.pop(0)
    def getFrontMost(self):
        return self.qlist[-1]
    def getRearMost(self):
        return self.qlist[0]

q = Queue()
q.enqueue(12)
q.enqueue(34)
q.enqueue(28)
q.enqueue(31)
```

Hasil :

```
Class Queue
[12, 34, 28, 31]
31
12
```

- **Class PriorityQueue**

```
import heapq
class PriorityQueue(object):
    def __init__(self):
        self.qlist= []
    def __len__(self):
        return len(self.qlist)
    def isEmpty(self):
        return len(self)==0
    def enqueue(self, data, prior):
        heapq.heappush(self.qlist, (prior, data))
        self.qlist.sort()
    def dequeue(self):
        return self.qlist.pop(-1)
    def getFrontMost(self):
        return self.qlist[-1]
    def getRearMost(self):
        return self.qlist[0]

pq = PriorityQueue()

pq.enqueue('aaa', 4)
pq.enqueue('bbb', 3)
pq.enqueue('ccc', 2)
pq.enqueue('ddd', 8)

print(pq.qlist)
```

Hasil :

```
Class PriorityQueue
[(2, 'ccc'), (3, 'bbb'), (4, 'aaa'), (8, 'ddd')]
```

Nomor 5

```
import heapq
class PriorityQueue(object):
    def __init__(self):
        self.qlist= []
    def __len__(self):
        return len(self.qlist)
    def isEmpty(self):
        return len(self)==0
    def enqueue(self, data, prior):
        heapq.heappush(self.qlist, (prior, data))
        self.qlist.sort()
    def dequeue(self):
        return self.qlist.pop(-1)
    def getFrontMost(self):
        return self.qlist[-1]
    def getRearMost(self):
        return self.qlist[0]

pq = PriorityQueue()
pq.enqueue('aaa', 4)
pq.enqueue('bbb', 3)
pq.enqueue('ccc', 2)
pq.enqueue('ddd', 8)

print(pq.qlist)
pq.dequeue()
print(pq.qlist)
pq.dequeue()
print(pq.qlist)
```

Hasil :

```
[(2, 'ccc'), (3, 'bbb'), (4, 'aaa'), (8, 'ddd')]
[(2, 'ccc'), (3, 'bbb'), (4, 'aaa')]
[(2, 'ccc'), (3, 'bbb')]
```