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app.py > Queue > dequeue_i
1 class Queue:
2     # max_size: size of Q
3     # Q: Array
4     def __init__(self, max_size):
5         self.max_size = max_size
6         self.Q = [0] * max_size
7         self.num = 0
8         self.first = 0
9
10    def enqueue(self, item):
11        if self.num >= self.max_size:
12            raise Exception("Queue overflow")
13        self.Q[(self.num + self.first) % self.max_size] = item
14        self.num += 1
15
16
17    def dequeue(self):
18        if self.num == 0:
19            raise Exception("Queue empty")
20        item = self.Q[self.first]
21        self.first = (self.first + 1) % self.max_size
22        self.num -= 1
23        return item
24
25
26    def front(self):
27        if self.num == 0:
28            raise Exception("Queue empty")
29        return self.Q[self.first]
30
31    def is_empty(self):
32        return self.num == 0

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app.py > Queue > dequeue_i
30
31    def is_empty(self):
32        return self.num == 0
33
34    def size(self):
35        return self.num
36
37    def is_full(self):
38        return self.num >= self.max_size
39
40    def dequeue_i(self, i):
41        if self.num == 0:
42            raise Exception("Queue empty")
43        item = self.Q[i]
44        del self.Q[i]
45        index = (self.num + self.first) % self.max_size
46        self.Q.insert(0, index)
47        self.num -= 1
48        return item

```