Algorithms for Data Science
Lab5
Stack and Queue ADTs

You are to create two Python classes, MyStack and MyQueue. These should provide a Stack and Queue implementation, respectively. The MyStack should use a standard Python list as its underlying datastructure (make sure it is efficient). The MyQueue should use a Python deque as its underlying datastructure (import deque from collections).

Each class should provide methods to create it, add/remove from it, peek at the top/front element without removing it, and to check to see if it is empty. The testing code below shows you exactly what your methods should be called and how they should work.

```
# Testing code for stack
s = MyStack(int)
print(s.empty())
s.push(5)
s.push(8)
print(s.pop())
s.push(3)
print(s.empty())
print(s.top())
print(s.pop())
print(s.pop())
print(s.pop()) # should generate an error

# Testing code for Queue
q = MyQueue(int)
print(q.empty())
q.enqueue(5)
q.enqueue(8)
print(q.dequeue())
q.enqueue(3)
print(q.empty())
print(q.front())
print(q.dequeue())
print(q.dequeue())
print(q.dequeue()) # should generate an error
```