Requirements for Deques*

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Cho O. Train is writing a program to simulate ordering of railroad cars. He needs you to write a data structure representing the order of the cars in the train that he can use for his program. Each train car will be represented with a `char`.

The operations he needs to support include:

`push_front('z')`	add the character to the front/left side of the train
`push_back('z')`	add the character to the back/right side of the train
`pop_front()`	remove the character at the front/left side
`pop_back()`	remove the character at the back/right side
`front()`	return the character at the front/left side
`back()`	return the character at the back/right side
`dq[3]`	return the character in car number 3 in deque dq
`empty()`	return true if and only if the deque has no elements
output operator	prints the characters in the deque

Popping does not return any characters. `front`, `back`, and `dq[3]` will work only if the desired characters exist. They should support both returning the specified characters and changing their values.