Double-Ended-Queue

A deque, also known as a double-ended queue. This is an ordered collection of items similar to the queue. Like every queue, this data structure also has two ends, a front and a rear, and the items remain positioned in the collection.

A deque is different from a simple or circular queue based on the unrestrictive nature of insertion and deletion of items. Insertion operation of new items can be done at either the front or the rear. Similarly, existing items can be deleted from either end.

In a sense, this hybrid linear structure provides all the capabilities of stacks and queues in a single data structure

Abstract Data Types:

- `Deque()` creates a new deque that is empty. It needs no parameters and returns an empty deque.
- `add_front(item)` adds a new item to the front of the deque. It needs the item and returns nothing.
- `add_rear(item)` adds a new item to the rear of the deque. It needs the item and returns nothing.
- `remove_front()` removes the front item from the deque. It needs no parameters and returns the item. The deque is modified.
- `remove_rear()` removes the rear item from the deque. It needs no parameters and returns the item. The deque is modified.
- `is_empty()` tests to see whether the deque is empty. It needs no parameters and returns a boolean value.
- `size()` returns the number of items in the deque. It needs no parameters and returns an integer.

Implement the above data structure using Python language.