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4.1 Theroie

| Operation | best | average | worst |
|--|--------|---------|--------|
| insert operation at the end of a single linked list | $O(1)$ | $O(n)$ | $O(n)$ |
| insert operation at the end of a list backed by an array | $O(1)$ | $O(1)$ | $O(1)$ |
| insert operation of a hash table | $O(1)$ | $O(1)$ | $O(1)$ |
| contains operation of a list | $O(1)$ | $O(n)$ | $O(n)$ |
| contains operation of a hash table | $O(1)$ | $O(1)$ | $O(n)$ |
| insert operation at the end of a single linked list | $O(1)$ | $O(n)$ | $O(n)$ |
| insert operation at the end of a list backed by an array | $O(1)$ | $O(1)$ | $O(1)$ |
| insert operation of a hash table | $O(1)$ | $O(1)$ | $O(1)$ |
| contains operation of a list | $O(1)$ | $O(n)$ | $O(n)$ |
| contains operation of a hash table | $O(1)$ | $O(1)$ | $O(n)$ |

4.2 What would be a suitable Java datatype to implement a FIFO-structure

A linked list