Sept 27 Dual Array Deque (public)

| | a | b | c | d | e | f | | |
| 0 | 2 3 4 5 6 7 8 9

(private) 0 12 3 4 5 p (public interface)

[ | a| b| c| d| e| f| | 5

4 3 2 1 0 0 1 2 3 4 front back Sizelij front. size() + back, size(); 0(1) get (i); if ( i = front. size()) back get ( 4/16 ). back.get (i-front.sizec)) 0(1) else front. ge+ (front. sizec) -1-i) add (i, x); if ( i = front. size ()) else back. add (i - front. size(), x)
front.add((front.size()-i), y)





rebalance();

if (back.size()) 3. front.size())

outinately front we definitely back

outinately front we definitely back

earliest n/4 3n/y eatest speid

O(i) O(n) = O(i) = O(n-i)

= O(i) = O(h-i)

add ( add (i > 3n/4)

0 (1+ min {i, n-i})