

Reasoning Table for *goToTheRear*

Use: $T.Init(x)$ as a predicate to state that variable x has initial value for its type T

```
void goToTheRear(QueueOfT& q);
  //! updates q
  //! requires |q| > 0
  //! ensures  q = #q[1,|#q|) * #q[0,1)
```

State	Code	Assume	Confirm
0		A0	C0
	T y;	/ /	/ /
1		A1	C1
	q.dequeue(y);	/ /	/ /
2		A2	C2
	q.enqueue(y);	/ /	/ /
3		A3	C3

To do:

1. Fill in the reasoning table for *goToTheRear* – do (1) substitutions for *self* and (2) formal parameter, and (3) also attached state #s
2. Write down VCs for each state, name them VC0, VC1, VC2, VC3
3. Prove the VC3