

## Reasoning Table for removeTwo

Two additional aspects to filling in a Reasoning Table

### To Do:

1. Fill in the reasoning table slots A0, A1, A2, C0, C1, C2 with the correct assertions
2. In the assertions, substitute self for the controlling object and the actual parameter for the formal parameter
3. In the assertions, postpend to the variable its correct state number

```
void removeTwo(SequenceOfT& s, T& z, T& y);
    //! updates s
    //! replaces z, y
    //! requires |s| > 1
    //! ensures s = #s[2,|#s|) and <z> is prefix #s and <y> is prefix #s[1,|#s|)
```

State	Code	Assume	Confirm
0		<b>A0:</b> $ s0  > 1$	<b>C0:</b> $0 \leq 1 <  s0 $
	s.remove(1,y);	1) When the actual parameter is a literal just replace formal parameter with the literal in the assertion	
1		<b>A1:</b> $\langle y1 \rangle = s0[1,2)$ and $s1 = s0[0,1 * s0[2, s0 )$ and $z1 = z0$	<b>C1:</b> $0 \leq 0 <  s1 $
	s.remove(0,z);	2) When a variable's value remains the same from one state to the next, you have to note that as in these two examples	
2		<b>A2:</b> $\langle z2 \rangle = s1[0,1)$ and $s2 = s1[0,0) * s1[1, s1 )$ and $y2 = y1$	<b>C2:</b> $s2 = s0[2, s0 )$ and $\langle z2 \rangle$ is prefix s0 and $\langle y2 \rangle$ is prefix s0[1, s0 )

### Reference:

```
void remove (Integer pos, T& x);
    //! updates self
    //! restores pos
    //! replaces x
    //! requires:  $0 \leq pos < |self|$ 
    //! ensures:  $\langle x \rangle = \#self[pos, pos+1)$  and  $self = \#self[0, pos) * \#self[pos+1, |self|)$ 
```

*Reminder:* Each and every variable appearing in each of the assertions found in an RT must have the correct state number postpend to it.  
In this RT, variables s, z, y all have state #s in every cell