class *Buffer*

values

public

$$最大長 = 7$$

instance variables

$$buf : \text{char}^* := [];$$

operations

public

$$Put : \text{char} \xrightarrow{o} ()$$
$$Put\,(item) \triangleq$$
$$buf := buf \frown [item]$$
pre len $buf < 最大長$

post

let $buf\,長 = $ len buf in
$$buf\,(1, \ldots, buf\,長 - 1) = \overleftarrow{buf} \land$$
$$buf\,(buf\,長) = item;$$

public

$$Get : () \xrightarrow{o} \text{char}$$
$$Get\,() \triangleq$$
let $item = $ hd buf in
$$(\quad buf := \text{tl } buf;$$
return $item$
$$)$$
pre len $buf > 0$

post

$RESULT = $ hd $\overleftarrow{buf} \land$
$$buf = \text{tl } \overleftarrow{buf};$$

public

1

$Puts : \mathsf{char}^* \xrightarrow{o} ()$

$Puts\,(items) \triangleq$

   $buf := buf \frown items$

pre   len $buf <$ 最大長

sync

   mutex(all);

   per $Put \Rightarrow$ #act $(Put) -$ #fin $(Get) <$ 最大長;

   per $Get \Rightarrow$ #act $(Put) -$ #fin $(Get) > 0$

end $Buffer$

Test Suite :   vdm.tc

Class :   Buffer

Name	#Calls	Coverage
Buffer'Get	14	$\checkmark$
Buffer'Put	14	$\checkmark$
Buffer'Puts	0	0%
Total Coverage		**84%**

$Puts : \mathsf{char}^* \xrightarrow{o} ()$

$Puts\,(items) \triangleq$

   $buf := buf \frown items$

pre   len $buf <$ 最大長