

```

*****
--algorithm AltSpec{
    variables b = 0;

    process ( Producers = 0 )
    { pe: while ( TRUE )
        {      await b = 0;
          put: skip;
          px: b := 1      }
    }

    process ( Consumer = 1 )
    { ce: while ( TRUE )
        {      await b = 1;
          get: skip;
          cx: b := 0      }
    }
}
*****

```

BEGIN TRANSLATION

VARIABLES *b*, *pc*

vars $\triangleq \langle b, pc \rangle$

ProcSet $\triangleq \{0\} \cup \{1\}$

Init \triangleq Global variables

$\wedge b = 0$

$\wedge pc = [self \in ProcSet \mapsto \text{CASE } self = 0 \rightarrow \text{"pe"} \\ \square \quad self = 1 \rightarrow \text{"ce"}]$

pe $\triangleq \wedge pc[0] = \text{"pe"} \\ \wedge b = 0 \\ \wedge pc' = [pc \text{ EXCEPT } ![0] = \text{"put"}] \\ \wedge b' = b$

put $\triangleq \wedge pc[0] = \text{"put"} \\ \wedge \text{TRUE} \\ \wedge pc' = [pc \text{ EXCEPT } ![0] = \text{"px"}] \\ \wedge b' = b$

px $\triangleq \wedge pc[0] = \text{"px"} \\ \wedge b' = 1 \\ \wedge pc' = [pc \text{ EXCEPT } ![0] = \text{"pe"}]$

Producers $\triangleq pe \vee put \vee px$

$$\begin{aligned}
ce &\triangleq \wedge pc[1] = \text{"ce"} \\
&\wedge b = 1 \\
&\wedge pc' = [pc \text{ EXCEPT } ![1] = \text{"get"}] \\
&\wedge b' = b
\end{aligned}$$

$$\begin{aligned}
get &\triangleq \wedge pc[1] = \text{"get"} \\
&\wedge \text{TRUE} \\
&\wedge pc' = [pc \text{ EXCEPT } ![1] = \text{"cx"}] \\
&\wedge b' = b
\end{aligned}$$

$$\begin{aligned}
cx &\triangleq \wedge pc[1] = \text{"cx"} \\
&\wedge b' = 0 \\
&\wedge pc' = [pc \text{ EXCEPT } ![1] = \text{"ce"}]
\end{aligned}$$

$$Consumer \triangleq ce \vee get \vee cx$$

$$Next \triangleq Producers \vee Consumer$$

$$Spec \triangleq Init \wedge \Box[Next]_{vars}$$

END TRANSLATION

\ * Modification History
\ * Last modified *Fri Jun 06 16:09:46 CST 2014* by *yaojingguo*
\ * Created *Fri Jun 06 16:06:16 CST 2014* by *yaojingguo*