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1  ┌────────────────────────── MODULE OneBitClock ───────────────────┐
2  VARIABLE clock

    The state predicate Init is true if the value of clock is either 0 or 1.
8  Init  $\triangleq$  clock  $\in \{0, 1\}$ 

    The next-state relation Tick sets clock (the value of clock in the next state) to 1 if clock is 0, and
    0 if clock is 1.
14 Tick  $\triangleq$  IF clock = 0 THEN clock' = 1 ELSE clock' = 0

    Spec is a temporal formula asserting all behaviours of one-bit clock must initially satisfy Init and
    have all steps either match Tick or be stuttering steps. Two such behaviours are: 0  $\rightarrow$  1  $\rightarrow$  0  $\rightarrow$ 
    1  $\rightarrow$  0  $\rightarrow$  ...
    1  $\rightarrow$  0  $\rightarrow$  1  $\rightarrow$  0  $\rightarrow$  1  $\rightarrow$  ...
24 Spec  $\triangleq$  Init  $\wedge \Box[Tick]_{\langle clock \rangle}$ 

26 └──────────────────────────────────────────────────────────────────┘

\ * Modification History
\ * Last modified Sun Apr 21 10:19:30 PDT 2019 by jasondebolt
\ * Created Sun Apr 21 09:37:13 PDT 2019 by jasondebolt

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