─────── MODULE *HourClock* ───────

This module specifies a digital clock that displays the current hour. It ignores real time, not specifying when the display can change.

EXTENDS *Naturals*

VARIABLE hr Variable hr represents the display.

$HCini \triangleq hr \in (1 .. 12)$ Initially, hr can have any value from 1 through 12.

$HCnxt \triangleq$

The value of hr cycles from 1 through 12.

$hr' =$ IF $hr \neq 12$ THEN $hr + 1$ ELSE 1

$HC \triangleq HCini \wedge \Box[HCnxt]_{hr}$

The complete spec. It permits the clock to stop.

─────────────────────────────

THEOREM $HC \Rightarrow \Box HCini$ Type-correctness of the spec.

─────────────────────────────