─────────────────── MODULE *Configuration* ───────────────────

INSTANCE *Naturals*

INSTANCE *FiniteSets*

INSTANCE *Sequences*

INSTANCE *TLC*

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  An empty constant
CONSTANT *Nil*

  Status constants
CONSTANTS
   *InProgress*,
   *Complete*,
   *Failed*

$State \triangleq$
  $\{InProgress,$
   $Complete,$
   $Failed\}$

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  A record of per-target configurations
VARIABLE *configuration*

  A record of target states
VARIABLE *target*

  A record of target masterships
VARIABLE *mastership*

$Test \triangleq$ INSTANCE *Test* WITH
  $File$       $\leftarrow$ "Configuration.log",
  $CurrState \leftarrow [$
    $configuration \mapsto configuration,$
    $mastership$   $\mapsto mastership,$
    $target$        $\mapsto target],$
  $SuccState \leftarrow [$
    $configuration \mapsto configuration',$
    $mastership$   $\mapsto mastership',$
    $target$        $\mapsto target']$

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This section models the *Configuration* reconciler.

$ReconcileConfiguration(n) \triangleq$
$\quad \wedge \vee \wedge \vee mastership.term > configuration.config.term$
$\qquad\qquad \vee \wedge mastership.term = configuration.config.term$
$\qquad\qquad\quad \wedge mastership.master = Nil$
$\qquad\quad \wedge configuration' = [configuration \text{ EXCEPT } !.config.term = mastership.term,$
$\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad !.state \qquad\quad = InProgress]$
$\qquad\quad \wedge \text{UNCHANGED } \langle target \rangle$
$\qquad \vee \wedge configuration.state = InProgress$
$\qquad\quad \wedge mastership.term = configuration.config.term$
$\qquad\quad \wedge mastership.master = n$
$\qquad\quad \wedge target' = configuration.target.values$
$\qquad\quad \wedge configuration' = [configuration \text{ EXCEPT } !.target.term = mastership.term,$
$\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad !.state \qquad\quad = Complete]$
$\quad \wedge \text{UNCHANGED } \langle mastership \rangle$