MODULE *Md2LaTeXCorrectness*

For now we only aim at checking the correctness of the *JSON Prefs*
entities are: user (singleton), the *JSONFile*, the checker

VARIABLE *entityState*

To be expressive:

$XOR(a,\ b) \triangleq\ (a \lor b) \land (\neg a \lor \neg b)$

$SetOfEntityStates \triangleq\ [$
$\quad user : \{\text{“working”},\ \text{“done”}\},$
$\quad prefs : \{\text{“not checked”},\ \text{“checked”}\} \times \{\text{“compliant”},\ \text{“not compliant”}\},$
$\quad checker : \{\text{“working”},\ \text{“done”}\}]$

$InitCorrectness \triangleq$
$\quad \land\ entityState \in SetOfEntityStates$

$NextCorrectness \triangleq$

checker is working:
checker simply achieves processing.

$\quad \land\ entityState.checker = \text{“working”}$
$\quad \land\ entityState' = [entityState\ \text{EXCEPT}\ !.checker = \text{“done”}]$

checker is done:
1. user is working: user achieves all current tasks

$\lor\ \land\ entityState.user = \text{“working”}$
$\quad \land\ entityState.checker = \text{“done”}$
$\quad \land\ entityState' = [entityState\ \text{EXCEPT}\ !.user = \text{“done”}]$

checker is done:
2. user is done, checker is done: user goes back to work

$\lor\ \land\ entityState.user = \text{“done”}$
$\quad \land\ entityState.checker = \text{“done”}$
$\quad \land\ entityState' = [entityState\ \text{EXCEPT}\ !.user = \text{“working”}]$

$isDone \triangleq\ \land\ entityState.user = \text{“done”}$
$\quad \land\ entityState.checker = \text{“done”}$

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