MODULE *StateSpace*

The graph representation of n-ary ordered state spaces and $2D$ state spaces used in *CJupiter* and *XJupiter*, respectively.

EXTENDS *JupiterCtx*, *GraphsUtil*

A state space is a directed graph with labeled edges. Each node is characterized by its context, a set of operations. Each edge is labeled with an operation.

$$
\begin{aligned}
&IsSS(G) \triangleq \\
&\quad \land IsGraph(G) \\
&\quad \land G.node \subseteq (\text{SUBSET } Oid) \\
&\quad \land G.edge \subseteq [from : G.node,\ to : G.node,\ cop : Cop]
\end{aligned}
$$

$$EmptySS \triangleq EmptyGraph$$

Locate the node in a state space that matches the context *ctx* of cop.

$$Locate(cop,\ ss) \triangleq \text{CHOOSE } n \in ss.node : n = cop.ctx$$

* Modification History
* Last modified *Wed Dec* 19 18:35:13 *CST* 2018 by *hengxin*
* Created *Wed Dec* 19 18:15:25 *CST* 2018 by *hengxin*