

The Action-Composition Operator

The action-composition operator \cdot (typed `\cdot`) is a TLA⁺ primitive operator. For any actions A and B , the action $A \cdot B$ is defined so that a step $s \rightarrow t$ is an $A \cdot B$ step iff there exists a state u such that $s \rightarrow u$ is an A step and $u \rightarrow t$ is a B step. In other words,

$$\llbracket A \cdot B \rrbracket(\langle s, t \rangle) \equiv \exists u : \llbracket A \rrbracket(\langle s, u \rangle) \wedge \llbracket B \rrbracket(\langle u, t \rangle)$$

This operator is rarely used. It is not currently supported by the TLC model checker or the TLAPS prover.

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