

X5.1 A **value** expression has the form $P \text{ value } e$ and the axiom

$$P. (P \text{ value } e) = e$$

except that $(P \text{ value } e)$ is not subject to double-priming in sequential composition, nor to substitution when using the Substitution Law. An alternative syntax is

$$\text{value } x: T \cdot P$$

where x is a new variable, T is its type, and P is a specification. The value of this expression is the final value of local variable x . What is its axiom?

After trying the question, scroll down to the solution.

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The axiom is

$$\exists x, x': T \cdot P. (\mathbf{value} \ x: T \cdot P) = x$$

except that $(\mathbf{value} \ x: T \cdot P)$ is not subject to double-priming in sequential composition, nor to substitution when using the Substitution Law.