

0.0.1 Array?

The operation *array?* will return a boolean which indicates if the passed in argument is a Collection

<i>Array?</i> [V]	_____
<i>coll?</i> : V	
<i>bol!</i> : Boolean	
<i>array?</i> _ : V → Boolean	
<hr/>	
<i>bol!</i> = <i>array?</i> (<i>coll?</i>) • <i>bol!</i> = <i>true</i> ⇔ <i>coll?</i> : Collection ⇒ V \ (Scalar, KV)	

where $V \setminus (Scalar, KV)$ is used to indicate that *coll?* is of type V

$$V ::= Scalar \mid Collection \mid KV$$

but in order for *bol!* = *true*, *coll?* must not be of type *Scalar* ∨ *KV* such that

$$\begin{aligned}
X &= \langle x_0, x_1, x_2, x_3, x_4 \rangle \\
x_0 &= 0 \\
x_1 &= foo \\
x_2 &= \langle baz, qux \rangle \\
x_3 &= \langle \langle abc \mapsto 123, def \mapsto 456 \rangle \rangle \\
x_4 &= \langle \langle \langle ghi \mapsto 789, jkl \mapsto 101112 \rangle \rangle, \langle \langle ghi \mapsto 131415, jkl \mapsto 161718 \rangle \rangle \rangle \\
array? (X) &= true && \text{[collection by definition]} \\
array? (x_2) &= true && \text{[collection of } 0 \mapsto baz, 1 \mapsto qux \text{]} \\
array? (x_4) &= true && \text{[collection of maps]} \\
array? (x_0) &= false && \text{[Scalar]} \\
array? (x_1) &= false && \text{[String]} \\
array? (x_3) &= false && \text{[Map]}
\end{aligned}$$