0.0.1 Array?

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

$$
\begin{array}{|l}
\textit{Array?}\,[V] \\
\hline
\textit{coll?} : V \\
\textit{bol!} : \textit{Boolean} \\
\textit{array?} : V \rightarrow \textit{Boolean} \\
\hline
\textit{bol!} = \textit{array?}\,(\textit{coll?}\,) \bullet \textit{bol!} = \textit{true} \iff \textit{coll?} : \textit{Collection} \Rightarrow V \setminus (\textit{Scalar}, \textit{Map}) \\
\hline
\end{array}
$$

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

$$V ::= \textit{Scalar} \,|\, \textit{Collection} \,|\, \textit{Map}$$

but in order for $\textit{bol!} = \textit{true}$, *coll*? must not be of type $\textit{Scalar} \lor \textit{Map}$ such that

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