

0.0.1 Dissociate

The operation *dissociate* will remove some $k \mapsto v$ from KV given $k \in KV$

$$\begin{array}{l}
 \text{Dissociate}[KV, K] \text{ -----} \\
 m?, m! : KV \\
 k? : K \\
 \text{dissociate } _ : KV \times K \twoheadrightarrow KV \\
 \hline
 m! = \text{dissociate}(m?, k?) \bullet m! = m? \triangleleft k? \Rightarrow \\
 (\text{dom } m! = \text{dom } (m? \setminus k?)) \wedge \\
 (m? \setminus m! = k? \iff k? \in m?) \wedge \\
 (m? \setminus m! = \emptyset \iff k? \notin m? \Rightarrow m? = m!) \wedge \\
 ((k?, m?_{k?}) \notin m!)
 \end{array}$$

such that every mapping in $m?$ is also in $m!$ except for $k? \mapsto m?_{k?}$.

$$\begin{array}{ll}
 M = \langle\langle k_0 v_{k_0}, k_1 v_{k_1} \rangle\rangle & \\
 k_0 = abc \wedge v_{k_0} = 123 & [k_0 v_{k_0} = abc \mapsto 123] \\
 k_1 = def \wedge v_{k_1} = xyz \mapsto 456 & [k_1 v_{k_1} = def \mapsto xyz \mapsto 456] \\
 \text{dissociate}(M, abc) = \langle\langle def \mapsto xyz \mapsto 456 \rangle\rangle & \\
 \text{dissociate}(M, def) = \langle\langle abc \mapsto 123 \rangle\rangle & \\
 \text{dissociate}(M, xyz) = M & [xyz \notin M]
 \end{array}$$