### 0.0.1 Dissociate

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

$$dissociate(KV, k) \rightarrow KV'$$

such that if $KV$ is a collection of Key Value pair(s) $< k_0 v_{k_0}, k_1 v_{k_1} >$ where

$$k_0 = abc \ \wedge v_{k_0} = 123$$

$$\Rightarrow$$

$$k_0 v_{k_0} = abc \mapsto 123$$

and

$$k_1 = def \ \wedge v_{k_1} = xyz \mapsto 456$$

$$\Rightarrow$$

$$k_1 v_{k_1} = def \mapsto xyz \mapsto 456$$

such that

$$KV =< abc \mapsto 123, \ def \mapsto xyz \mapsto 456 >$$

Which means $disocciate(KV, k)$ results in

- $KV \neq KV' \iff k \in KV$ where $k \mapsto v_k$ is removed from $KV$

$$dissociate(KV, abc) =< def \mapsto xyz \mapsto 456 >= KV'$$

$$dissociate(KV, def) =< abc \mapsto 123 >= KV'$$

- $KV = KV' \iff k \notin KV$ where nothing is removed from $KV$

$$dissociate(KV, cba) =< abc \mapsto 123, \ def \mapsto xyz \mapsto 456 >= KV' = KV$$