

$[Val]$ (the set of storable values)

$Ptr : \mathbb{P} Val$ (the set of pointers is a subset of Val)

$nil : Ptr$

ADT $Store \hat{=} Ptr \setminus \{nil\} \multimap Val$

initially $(s : Store) \hat{=} s = \emptyset$

procedure $add(\mathbf{ref} \ s : Store, \mathbf{value} \ v : Val, \mathbf{ref} \ p : Ptr)$

$\hat{=} s, p : \left[\text{true}, \begin{array}{l} p \notin \text{dom } s_0 \\ s = s_0 \cup \{p \mapsto v\} \end{array} \right]$

procedure $update(\mathbf{ref} \ s : Store, \mathbf{value} \ p : Ptr, \mathbf{value} \ v : VAL)$

$\hat{=} s : [p \in \text{dom } s, s = s_0 \oplus \{p \mapsto v\}]$

procedure $deref(\mathbf{value} \ s : Store, \mathbf{value} \ p : Ptr, \mathbf{ref} \ v : Val)$

$\hat{=} v : [p \in \text{dom } s, v = s(p)]$

procedure $transfer(\mathbf{ref} \ s, t : Store, \mathbf{value} \ ptrs : \mathbb{F} Ptr)$

$\hat{=} s, t : \left[\begin{array}{l} s = ptrs \triangleleft s_0 \\ ptrs \subseteq \text{dom } s, t = t_0 \cup (ptrs \triangleleft s_0) \\ ptrs \cap \text{dom } t_0 = \emptyset \end{array} \right]$