

Funcons-beta: Linking *

The P_LanCompS Project

Linking.cbs | PLAIN | PRETTY

Linking

```
[ Datatype links
  Funcon initialise-linking
  Funcon link
  Funcon fresh-link
  Funcon fresh-initialised-link
  Alias fresh-init-link
  Funcon set-link
  Funcon follow-if-link ]
```

Meta-variables $T <: \text{values}$

Datatype $\text{links} ::= \text{link}(_ : \text{variables})$

Funcon $\text{initialise-linking}(X : \Rightarrow T) : \Rightarrow T$
 $\rightsquigarrow \text{initialise-storing}(X)$

$\text{initialise-linking}(X)$ ensures that the entities used by the funcons for linking are properly initialised.

Funcon $\text{fresh-link}(T) : \Rightarrow \text{links}$
 $\rightsquigarrow \text{link}(\text{allocate-variable}(T))$

Funcon $\text{fresh-initialised-link}(T, V : T) : \Rightarrow \text{links}$
 $\rightsquigarrow \text{link}(\text{allocate-initialised-variable}(T, V))$

Alias $\text{fresh-init-link} = \text{fresh-initialised-link}$

Funcon $\text{set-link}(_ : \text{links}, _ : T) : \Rightarrow \text{null-type}$

The value of a link can be set only once.

Rule $\text{set-link}(\text{link}(\text{Var} : \text{variables}), V : T) \rightsquigarrow \text{initialise-variable}(\text{Var}, V)$

*Suggestions for improvement: plancomps@gmail.com.
Reports of issues: <https://github.com/plancomps/CBS-beta/issues>.

Funcon $\text{follow-link}(_ : \text{links}) : \Rightarrow \text{values}$

Rule $\text{follow-link}(\text{link}(Var : \text{variables})) \rightsquigarrow \text{assigned}(Var)$

Funcon $\text{follow-if-link}(_ : \text{values}) : \Rightarrow \text{values}$

If V is a link, $\text{follow-if-link}(V)$ computes the set value, and otherwise it evaluates to V .

Rule $\text{follow-if-link}(\text{link}(Var : \text{variables})) \rightsquigarrow \text{assigned}(Var)$

Rule $\text{follow-if-link}(V : \sim \text{links}) \rightsquigarrow V$