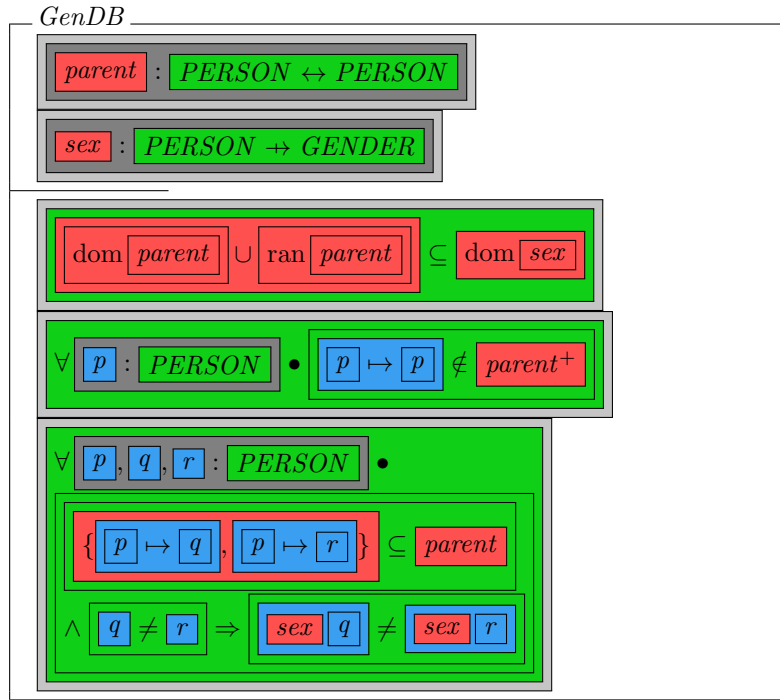
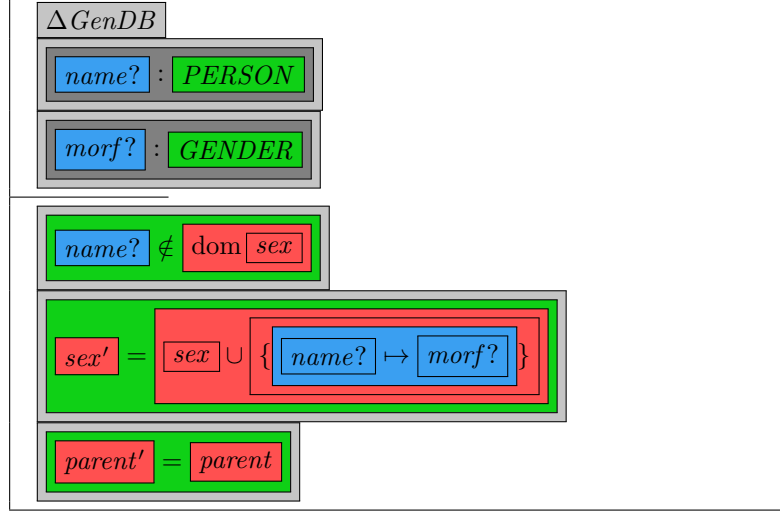


\boxed{PERSON}

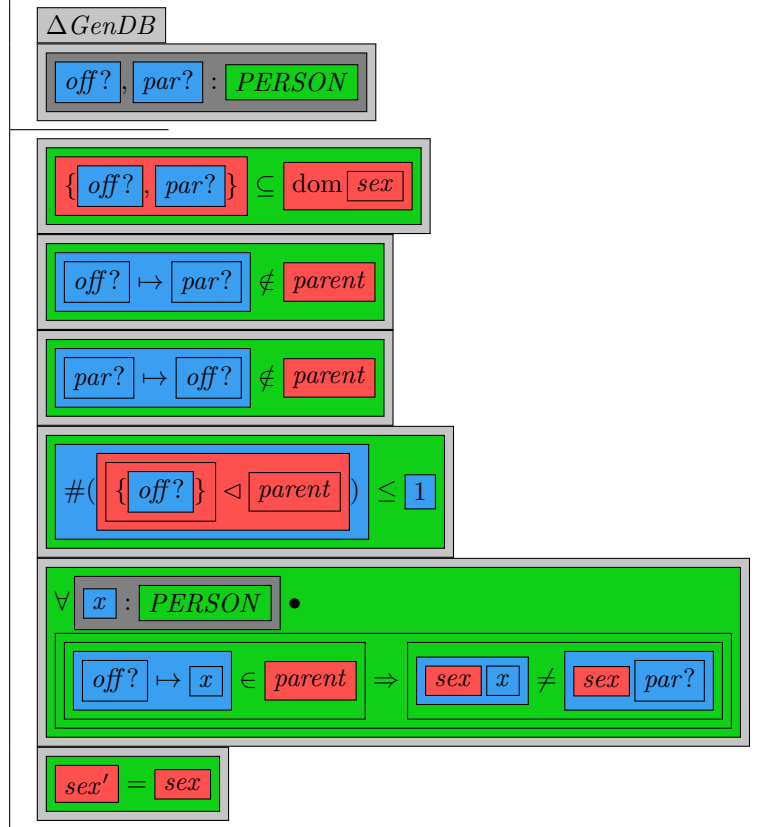
$\boxed{GENDER} ::= \boxed{male} \mid \boxed{female}$



AddPerson



AddRel



ChangeName

$\Delta GenDB$

$old?, new? : PERSON$

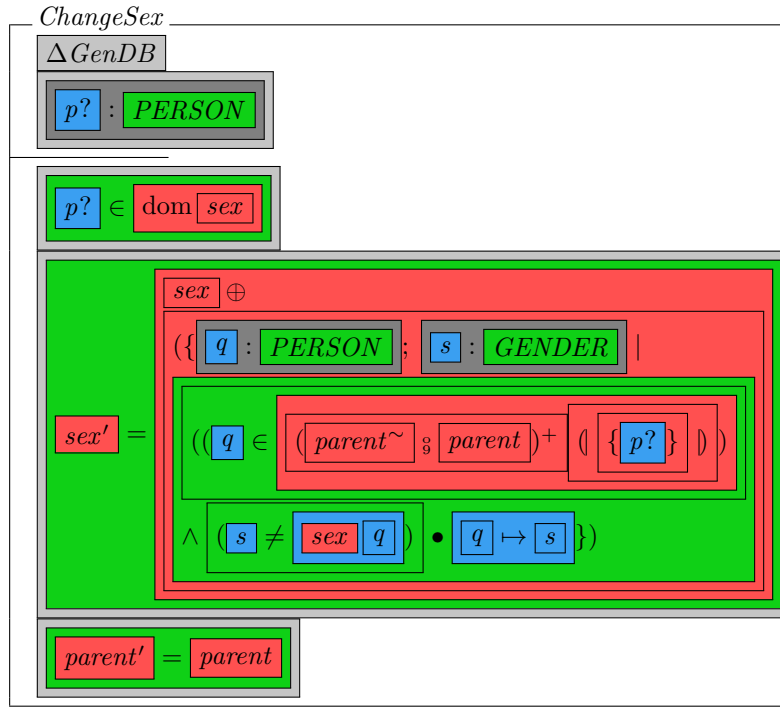
$old? \in \text{dom } sex$

$new? \notin \text{dom } sex$

$sex' = (\{old?\} \triangleleft sex) \cup \{new? \mapsto sex\ old?\}$

$parent' =$

- $(\{old?\} \triangleleft parent \triangleright \{old?\})$
- \cup
 - $\{x : PERSON \mid$
 - $x \in parent (\{old?\}) \bullet$
 - $new? \mapsto x\}$
 - \cup
 - $\{x : PERSON \mid$
 - $x \notin parent \sim (\{old?\}) \bullet$
 - $x \mapsto new?\}$



CommonAncestors

$\exists \text{ GenDB}$

$p?, q? : \text{PERSON}$

$\text{cas!} : \mathbb{P} \text{PERSON}$

$\{p?, q?\} \cup \text{cas!} \subseteq \text{dom } \text{sex}$

$\text{cas!} = \{ \text{ca} : \text{PERSON} \mid$
 $\exists m, n : \mathbb{N} \bullet$
 $((p? \mapsto \text{ca} \in \text{parent}^n$
 $\wedge q? \mapsto \text{ca} \in \text{parent}^m)$
 $\neg \exists r : \text{PERSON} ; x, y : \mathbb{N} \bullet$
 $((x + y < m + n)$
 $\wedge p? \mapsto r \in \text{parent}^x$
 $\wedge q? \mapsto r \in \text{parent}^y))) \}$

Cousins

