Chapter 1

Syntax of Statix

Syntax	Logical	Explanation
`a == b`	$a == b$	Unify the values of a and b
`new s`	∇s	Create a new scope
`s1 -P-> s2`	$s_1 \xrightarrow{\mathsf{P}} s_2$	Create an edge with label P from s_1 to s_2
`s -> Class{x@x}`	$s \xrightarrow{:} \text{CLASS}(x)$	Create a new declaration in scope s
`!Class{x@x} in s`	$s \xrightarrow{:} \text{CLASS}(x)$	Create a new declaration in scope s
`!type[Class{x@x}, ty] in s`	$s \xrightarrow{\mathsf{type}} \text{CLASS}(x){:}ty$	Associate the given type to declaration s
`a == b`	$a = b$	a and b should be unified to be the same value
`Class{x@x} in s |-> result`	$\mathsf{query}\, s \mapsto \text{CLASS}(x)\, \mathsf{as}\, result$	Performs a query in scope s for declarations of the form `Class{x}`. The allowed paths and label order have to be defined in the name-resolution section.

`query decl`
`  filter P*I*`
`  and { x }`
`  min $ < P, P < I`
`  in s |-> result`
	$\mathsf{query}\, s \xmapsto{\mathsf{P}^*\mathsf{I}^*:} \text{DECL}(x)\, \mathsf{as}\, result$	Performs a query in scope s following paths of the form P*I*:, with label order of preferring declarations over P edges, and P edges over I edges.

Table 1.1: Overview of the syntax of Statix

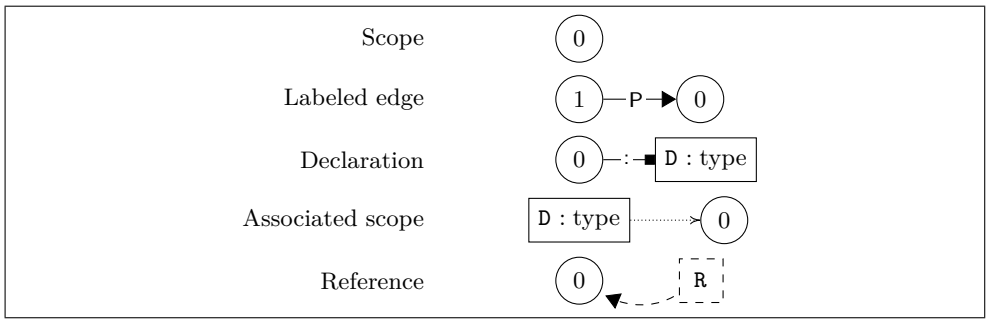

Figure 1.1: Overview of the notation used for scope graphs.