Phase 18 Demo : Partial Function Operators

Example 1 : -—¿ operator (partial injection)

Basic function type *with $\rightarrowtail$ operator*:

$$
\begin{array}{|l}
f : \mathbb{N} \rightarrowtail \mathbb{N} \\
\hline
\operatorname{dom} f = \{1, 2, 3\} f(1) = 10 f(2) = 20 f(3) = 30
\end{array}
$$

Example 2 : +-¿ operator (partial function)

Basic function type *with $\nrightarrow$ operator*:

$$
\begin{array}{|l}
g : \mathbb{N} \nrightarrow \mathbb{N} \\
\hline
\operatorname{dom} g = \{1, 2\} g(1) = 100 g(2) = 200
\end{array}
$$

Example 3 : Complex types with -—¿

Using $\rightarrowtail$ with custom types:

$$[Year, Entry]$$

$$Table == \operatorname{seq} Entry$$

$$
\begin{array}{|l}
records : Year \rightarrowtail Table \\
\hline
\operatorname{dom} records = \{1993, 1994, 1995\}
\end{array}
$$

Example 4 : Mixed function type operators

Different function type operators:

$$
\begin{array}{|l}
total : \mathbb{N} \rightarrow \mathbb{N} \, partial : \mathbb{N} \nrightarrow \mathbb{N} \, injection : \mathbb{N} \rightarrowtail \mathbb{N}
\end{array}
$$