$$\text{id} \quad :: \quad a \to a$$
$$\text{id} \quad :: \quad b \to b$$

$$\text{id} \quad \text{id} \quad :: \quad ?$$
$$\Rightarrow$$
$$\bot$$

$$a \sim b \to b$$

$$\text{id} \quad \text{id} \quad :: \quad a$$
$$:: \quad b \to b$$

$$\{b \to b\} \longmapsto (b \to b)$$

$$\text{id} \quad \text{id} \quad :: \quad b \to b$$

MAP   HEAD

MAP :: $(a \to b) \leadsto [a] \to [b]$
HEAD :: $[c] \to c$

$a \to b \quad \sim \quad [c] \to c$

$a \quad\quad\quad \sim \quad [c]$

$b \quad\quad\quad \sim \quad c$

MAP HEAD :: $[a] \to [b]$
$\quad\quad\quad\quad :: \quad [[c]] \to [c]$

FILTER MAP :: **TYPE ERROR**

FILTER :: $(a \to Bool) \to [a] \to [a]$

MAP :: $(c \to d) \to ([c] \to [d])$

$a \to Bool \quad \sim \quad (c \to d) \to ([c] \to [d]),$

$a \quad \sim \quad c \to d$

$Bool \quad \sim \quad [c] \to [d]$ ✗

$a \to (b \to (c \to (d \to (e \to (f \to g))))))$

$((MAP\ FILTER)\ foo)\ c\ d$

(map HEAD) :: [[c]] → [c]

(map HEAD) [[1,2,3]
, [4,5,6]
]