

assert ()
 predicate -

tagof

~~typeof ("x") = "string"~~

~~typeof (f) = "function"~~

~~typeof ({x: 3}) = "object"~~

T = int
| bool
| string
| (T → T)
| (listof T)
| {n: T, ...}

proof → falsification

$(\text{assert } (n \rightarrow s) f) \rightarrow (\lambda (x) (\lambda (v) (f v)))$
 $(\text{assert } s = f$
 $(f (\text{assert } N x))))$

CONTRACTS

$(\text{assert } N v) \rightarrow (\text{if } (\text{number? } v)$
 v
 $(\text{error "assert failed"}))$

$(\text{assert } (T_1 \rightarrow T_2) v) \rightarrow (\text{if } (\text{procedure? } v)$
 $(\lambda (x)$
 $(\text{assert } T_2 (v (\text{assert } T_1 x))))$
 $(\text{error } \dots))$

(define guarded-n→s
 (assert (N → S) number → string))

(guarded-n → s ...)

d/dx : ((R → R) → (R → R))