

```

{-# OPTIONS --guardedness #-}

open import Data.Nat.Properties using (..)
open import Relation.Nullary.Decidable
open import Data.Nat
open import Data.Bool using (Bool)
open import Function.Base using (case_of_)

module latex.Language where

Id : Set
Id =

Val : Set
Val =

State : Set
State = Id → Val

Expr : Set
Expr = State → Val

data Stmt : Set where
  Sskip : Stmt
  Sassign : Id → Expr → Stmt
  Sseq : Stmt → Stmt → Stmt
  Sifthenelse : Expr → Stmt → Stmt → Stmt
  Swhile : Expr → Stmt → Stmt

loop : Stmt
loop = Swhile
  ( _ → 1 )
  (Sassign 0 ( st → st 0 + 1 ))

```