## 1 Lifted and unlifted types

lifted: \* (all standard lifted types), unlifted : #

Definition: Lifted types

A lifted type, which includes any datatype you could define yourself, is any that can be inhabited by bottom. Represented by a pointer.

Definition: Unlifted type

Unlifted types are any type which cannot be inhabited by bottom (native machine types and raw pointers).

Newtypes are special case.

## Data constructors are functions

Data constant  $\neq$  Data constructors.

## 2 Unfold

Folds - catamorphism break data structure down, then unfold build them up.