

Towards dependent types

Possible issues:

- Distinct type variables may be *dependent* on one another!
 - ▶ $(a : \text{Type}) \rightarrow (x : a) \rightarrow x = x$
 - ▶ Can't always swap argument order!
 - ★ $(n : \text{Nat}) \rightarrow (- : \text{Fin } n) \rightarrow \text{Fin } (\text{S } n)$
- Functions in type signatures not always bijective
 - ▶ $\text{fromList} : (l : \text{List } a) \rightarrow \text{Vect } (\text{length } l) a$
 - ▶ $(l : \text{List } a) \rightarrow \text{Vect } (\text{length } l) a \succeq^? \text{Vect } 10 a$