

I'm a programmer, why do I care ?

- Semigroups and monoid are common in Haskell & PureScript
- They also show up in Haskell-inspired libraries like *Cats* for Scala, *fp-ts* for TypeScript, *Arrow* for Kotlin ...
- A state-based CRDT is a special monoid with more laws
- Knowing this lets us refactor our code to simplify it, and take advantage of existing libraries

```
-- StateBasedCRDT is a bounded semilattice, i.e. a monoid with additional laws
-- Laws don't appear here, but they will in tests
class Monoid t ≤ StateBasedCRDT t

-- In that case, merge is a synonym for append,
-- but the compiler will only let us use it for CRDTs, not just any semigroup
merge :: forall t. StateBasedCRDT t => t → t → t
merge = append
```