Variance

Takeaways

Variance question: if A extends B, should Thing[A] "extend" Thing[B]?

- yes – covariant
- no – invariant
- hell no, quite the contrary – contravariant

```scala
trait List[+A] // covariant

trait Semigroup[A] // invariant

trait Vet[-A] // invariant
```

Rule of thumb: how to determine variance

- if the type <u>produces</u> values of type A, then <u>covariant</u>
- if the type <u>consumes</u> values of type A, then <u>contravariant</u>
- otherwise, <u>invariant</u>

Scala rocks