



# Groups

## 1 Why

We generalize the algebraic structure of addition over the integers.

## 2 Definition

A **group** is an algebra with: (1) an associative operation, (2) an identity element, and (3) an inverse for each element. We call the operation of the algebra **group addition**. A **commutative group** is a group whose operation commutes.

### 2.1 Notation

TODO