



## 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

