Commutative Operations

1 Why

We introduce language for the case in which an operation does not depend on the order in which it operates.

2 Definition

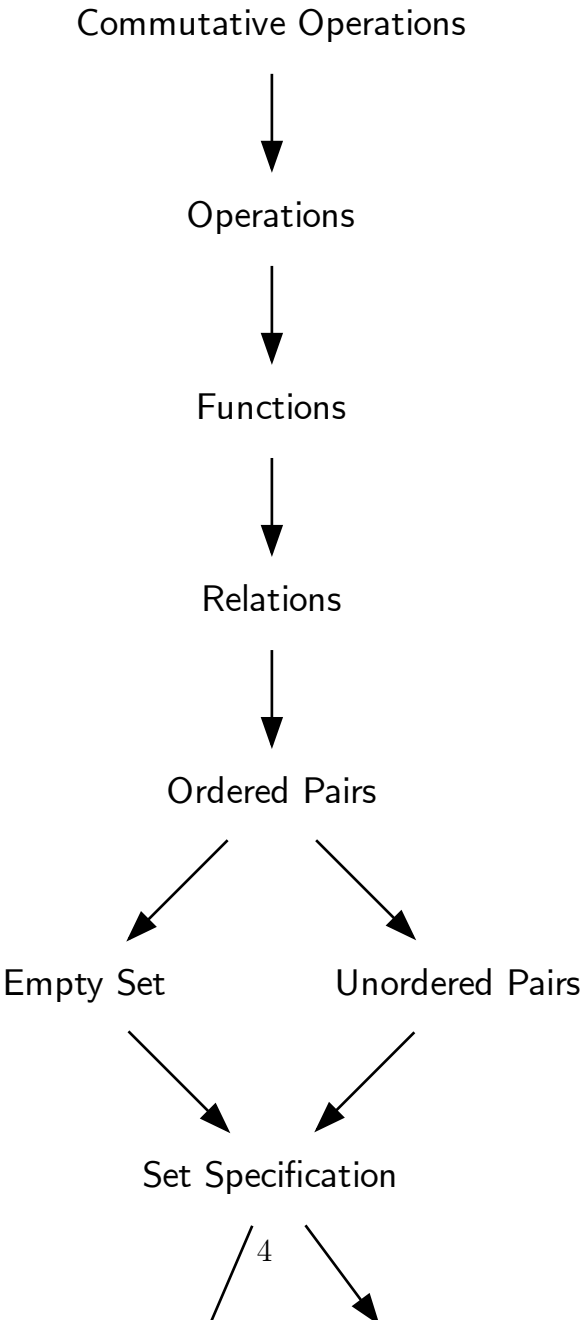
An operation *commutes* if the result of two elements is the same regardless of their order.

2.1 Notation

Let A be a non-empty set and let $+ : A \times A \to A$ be an operation. If $+$ commutes, then

$$a + b = b + a$$

for all $a, b \in A$.


Commutative Operations
Operations
Functions
Relations
Ordered Pairs
Empty Set
Unordered Pairs
Set Specification