Semigroups and monoids

Functional abstractions

Ivan Trepakov

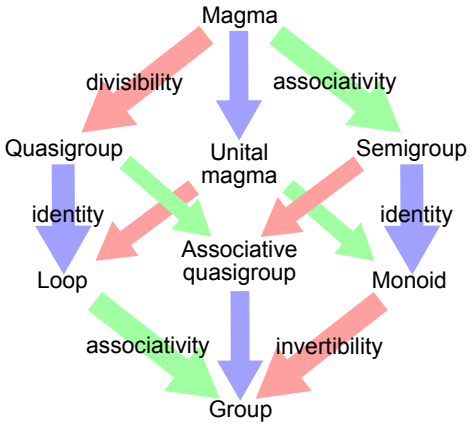
NSU Sys.Pro

Algebraic structures

Functional abstractions start with algebra

Algebraic structures

Functional abstractions start with algebra



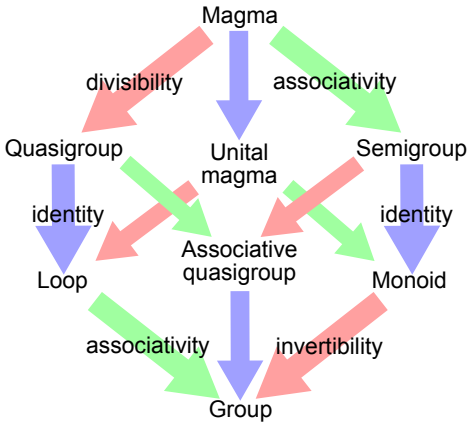
https://en.wikipedia.org/wiki/Semigroup

Algebraic structures

Functional abstractions start with algebra

Semigroup $\langle S, \cdot \rangle$

- Set S
- Binary operation
  $\cdot : (S \times S) \to S$
- *Associativity*
  $\forall a, b, c \in S : (a \cdot b) \cdot c = a \cdot (b \cdot c)$



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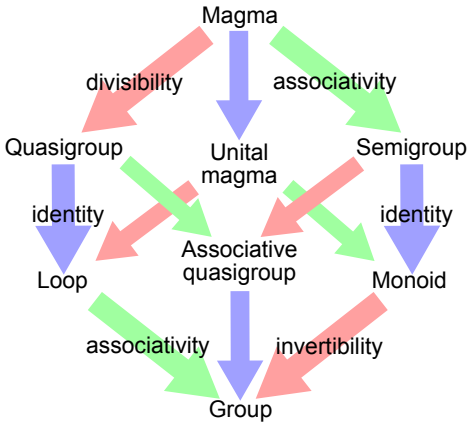
Monoid $\langle S, \cdot \rangle$

- Semigroup $\langle S, \cdot \rangle$
- *Identity element* $e \in S$
  $\forall a \in S : e \cdot a = a \cdot e = e$



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Q&A