

# Structure of a semigroup

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I defined a new semigroup called 2-inverse semigroup: it's the one where every element has precisely 2 inverse elements (remind that  $b$  is inverse to  $a$  iff  $a=aba$  and  $b=bab$ ). I've found so far only some elementary facts: it doesn't have 0 nor 1, it is orthodox, it doesn't have any idempotent which commutes with every other idempotent (remind that in inverse semigroup, where every element has precisely 1 inverse element, all idempotents commute with each other).

If somebody can give some hints how to find out what this 2-inverse semigroup actually is and what is it's structure (eg. what do idempotents form?), I'd be thankful.

Riivo, a semigroup fan.

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