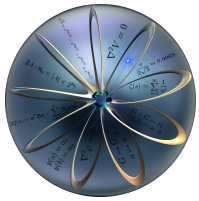

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completely simple semigroup

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Defines	primitive
Defines	completely 0-simple
Defines	completely simple

Let S be a semigroup. An idempotent $e \in S$ is *primitive* if for every other idempotent $f \in S$, $ef = fe = f \neq 0 \Rightarrow e = f$

A semigroup S (without zero) is *completely* if it is simple and contains a primitive idempotent.

A semigroup S is *completely* 0*-simple* if it is `http://planetmath.org/SimpleSemigroup`0-simple and contains a primitive idempotent.

Completely simple and completely 0-simple semigroups maybe characterised by the Rees Theorem ([**?**], Theorem 3.2.3).

Note:

A semigroup (without zero) is completely simple if and only if it is regular and weakly cancellative.

A simple semigroup (without zero) is completely simple if and only if it is completely regular.

A 0-simple semigroup is completely 0-simple if and only if it is group-bound.

References

[Ho95] Howie, John M. *Fundamentals of Semigroup Theory*. Oxford University Press, 1995.