

Let M be a left (or right) R -module. The *socle* of M , denoted by $\text{Soc}(M)$, is the sum of all simple (or minimal) submodules of M . If M has no simple submodules, then $\text{Soc}(M) := (0)$.

A left (or right) R -module M is semisimple iff $\text{Soc}(M) = M$.