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large ideal

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An ideal I of a ring R is called a *large ideal* if for every ideal J of R such that $J \neq \{0\}$, $I \cap J \neq \{0\}$

A ring is semiprime iff every large ideal is dense.

Obviously all nontrivial ideal of an integral domain is a large ideal, and the maximal ideal of any non-trivial local ring is a large ideal.

References

[1] **N.J. Fine, L. Gillman, J. Lambek**, "Rings of Quotients of Rings of Functions",
Transcribed and edited into PDF from the original 1966 McGill University Press book
(see `http://tinyurl.com/24unqs`here, Editors: M. Barr, R. Raphael),
`http://tinyurl.com/ytw3tj`Online download, Accessed 24.10.2007