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## flat module

Canonical name	FlatModule
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Entry type	Definition
Classification	msc 16D40
Synonym	flat

A right module  $M$  over a ring  $R$  is *flat* if the tensor product functor  $M \otimes_R (-)$  is an exact functor.

Similarly, a left module  $N$  over  $R$  is *flat* if the tensor product functor  $(-) \otimes_R N$  is an exact functor.