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# strongly minimal

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Let $L$ be a first order language and let $M$ be an $L$-structure. Let $S$, a subset of the domain of $M$ be a definable infinite set. Then $S$ is *minimal* iff every definable $C \subseteq S$ we have either $C$ is finite or $S \setminus C$ is finite. We say that $M$ is *minimal* iff the domain of $M$ is a strongly minimal set.

We say that $M$ is *strongly minimal* iff for every $N \equiv M$, we have that $N$ is minimal. Thus if $T$ is a complete $L$ theory then we say $T$ is *strongly minimal* if it has some model (equivalently all models) which is strongly minimal.

Note that $M$ is strongly minimal iff every definable subset of $M$ is quantifier free definable in a language with just equality. Compare this to the notion of o-minimal structures.