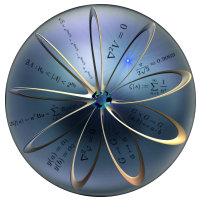

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constructible

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Classification	msc 68Q15
Defines	time constructible
Defines	space constructible

A function $f : \mathbb{N} \to \mathbb{N}$ is *time constructible* if there is a deterministic Turing machine T (with alphabet $\{0, 1, B\}$) such that when T receives as input the a series of n ones, it halts after exactly $f(n)$ steps. Similarly f is *space constructible* if there is a similar Turing machine which halts after using exactly $f(n)$ cells.

Most 'natural' functions are both time and space constructible, including constant functions, polynomials, and exponentials, for example.