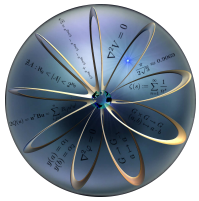

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Amdahl's Law

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Amdahl's Law reveals the maximum speedup that can be expected from parallel algorithms given the proportion of parts that must be computed sequentially. It gives the speedup S as

$$S \leq \frac{1}{f + (1 - f)/N}$$

Where f is the fraction of the problem that must be computed sequentially and N is the number of processors.

Note that as f approaches zero, S nears N, which we'd expect from a perfectly parallelizable algorithm.