

$$\lim_{n \rightarrow \infty} \frac{f(n)}{g(n)} = \begin{cases} 0 & \text{then } f(n) \in \mathcal{O}(g(n)) \\ c > 0 & \text{then } f(n) \in \Theta(g(n)) \\ \infty & \text{then } f(n) \in \Omega(g(n)) \end{cases}$$

Constant	$\mathcal{O}(1)$
Logarithmic	$\mathcal{O}(\log(n))$
Linear	$\mathcal{O}(n)$
Polylogarithmic	$\mathcal{O}(\log^k(n))$
Quadratic	$\mathcal{O}(n^2)$
Cubic	$\mathcal{O}(n^3)$
Polynomial	$\mathcal{O}(n^k)$ for any $k > 0$
Exponential	$\mathcal{O}(2^n)$
Super-Exponential	$\mathcal{O}(2^{f(n)})$ for $f(n) = n^{(1+\epsilon)}$, $\epsilon > 0$ For example, $n!$

Table: Some Efficiency Classes