Orders of Growth

Hierarchy of functions going to infinity

$$n^n \succ n! \succ a^n \succ n^a \succ \log_a n$$

as $n \to \infty$

Factoral > Exponential > Polynomial > Logarithmic

$n!$	e^n	$n\sqrt{n^2+1}$	$\ln(\ln n)$
	$3^{\sqrt{n}}$	n^2+1	$(\ln n)^3$
	2^n	$\sqrt{n}$	$\ln n$