

Comparing the Growth of Functions

The following functions of n (where n is a positive integer) are listed in order from slowest to fastest growing. Each function in this list is big-O of the functions below it. For ease of comparison these functions have been evaluated at $n = 64$.

$f(n)$	$f(64)$
1	1
$\log n$	6
n	64
$n \log n$	384
n^2	4096
n^3	262144
n^4	16777216
2^n	1.84×10^{19}
3^n	3.43×10^{30}
4^n	3.40×10^{38}
$n!$	1.27×10^{89}
n^n	3.94×10^{115}