

Running Times Chart

Complexity	Size					
	20	50	100	200	500	1000
$1000n$	.02 sec	.05 sec	.1 sec	.2 sec	.5 sec	1 sec
$1000 \lg n$	.09 sec	.3 sec	.6 sec	1.5 sec	4.5 sec	10 sec
$100n^2$	.04 sec	.25 sec	1 sec	4 sec	25 sec	2 min
$10n^3$	.02 sec	1 sec	10 sec	1 min	21 min	2.7 hr
$n^{\lg n}$	4 sec	1.1 hr	220 DAYS	125 CENT	5×10^8 CENT	
$2^{n/3}$	.0001 sec	.1 sec	2.7 hr	3×10^4 CENT		
2^n	1 sec	35 YR	3×10^4 CENT			
3^n	58 min	2×10^9 CENT				

Running time estimates: One step takes one microsecond.

Complexity	Time					
	1 sec	10 ² sec (1.7 min)	10 ⁴ sec (2.7 hr)	10 ⁶ sec (12 DAYS)	10 ⁸ sec (3 YEARS)	10 ¹⁰ sec (3 CENT)
1000n	10 ³	10 ⁵	10 ⁷	10 ⁹	10 ¹¹	10 ¹³
1000lg n	1.4 × 10 ²	7.7 × 10 ³	5.2 × 10 ⁵	3.9 × 10 ⁷	3.14 × 10 ⁹	2.6 × 10 ¹¹
100n ²	10 ²	10 ³	10 ⁴	10 ⁵	10 ⁶	10 ⁷
10n ³	46	2.1 × 10 ²	10 ³	4.6 × 10 ³	2.1 × 10 ⁴	10 ⁵
n ^{lg n}	22	36	54	79	112	156
2 ^{n/3}	59	79	99	119	139	159
2 ⁿ	19	26	33	39	46	53
3 ⁿ	12	16	20	25	29	33

Maximum size of a solvable problem. A factor of ten increase in machine speed corresponds to a factor of ten increase in time.

Time since the Big Bang: 3×10^{17} sec = 10⁸ CENT = 10¹⁰ CENT