时空复杂度的分析

函数增长和运行时间

$\lg N$	$\sqrt{N}$	N	$N \lg N$	$N(\lg N)^2$	$N^{3/2}$	N^2
3	3	10	33	110	32	100
7	10	100	664	4414	1000	10000
10	32	1000	9966	99317	31623	1000000
13	100	10000	132877	1765633	1000000	100000000
17	316	100000	1660964	27588016	31622777	10000000000
20	1000	1000000	19931569	397267426	1000000000	1000000000000

seconds

10^2	1.7 minutes
10^4	2.8 hours
10^5	1.1 days
10^6	1.6 weeks
10^7	3.8 months
10^8	3.1 years
10^9	3.1 decades
10^{10}	3.1 centuries
10^{11}	*never*

operations per second	*problem size 1 million*			*problem size 1 billion*		
	N	$N \lg N$	N^2	N	$N \lg N$	N^2
10^6	seconds	seconds	weeks	hours	hours	never
10^9	instant	instant	hours	seconds	seconds	decades
10^{12}	instant	instant	seconds	instant	instant	weeks