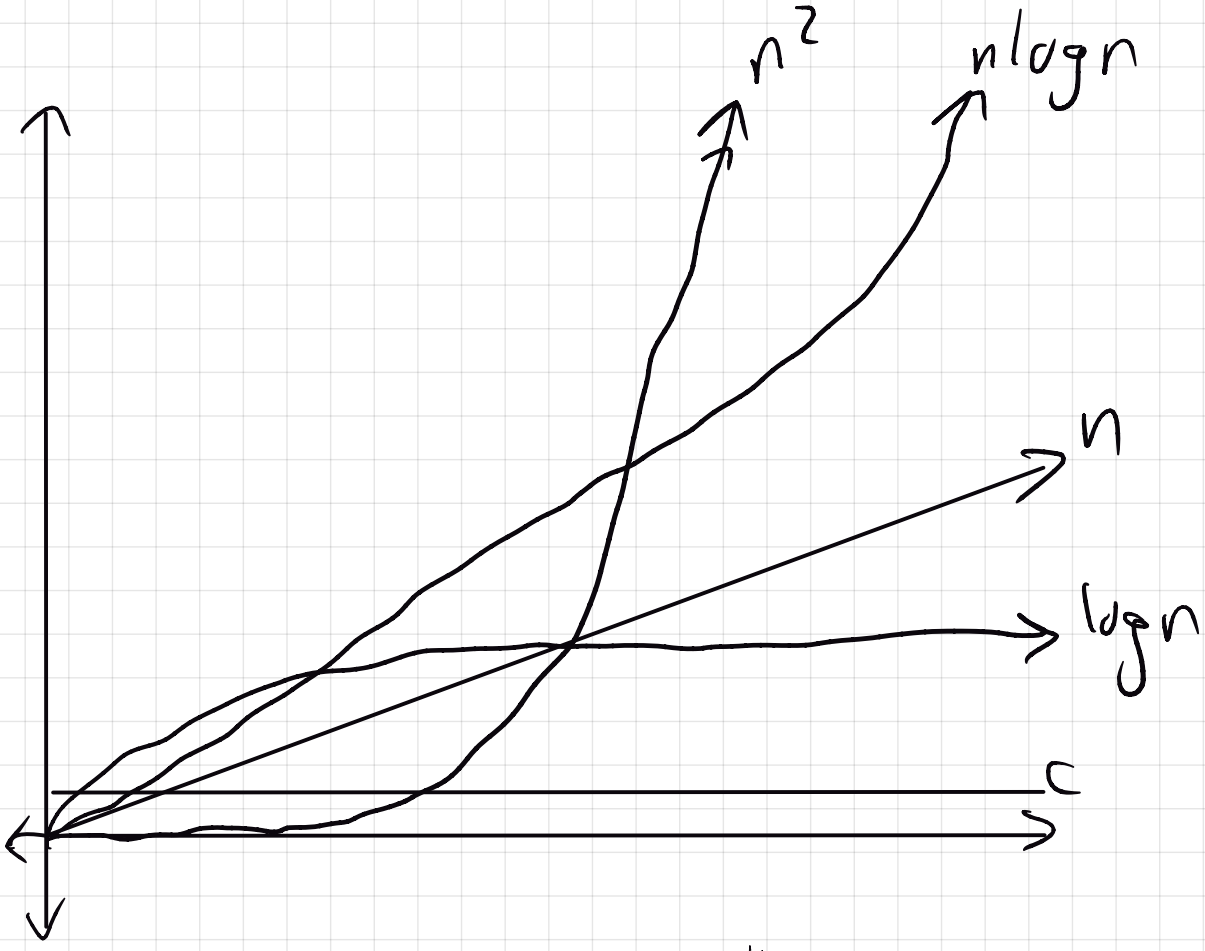

These are common functions, so the order is $n^2 > n\log n > n > \log n > c$

For n^{1000} and 2^n comparison, let's take log on both of them:

$1000\log n$ $\quad n\log 2^1$

$1000\log\log n$ $\quad n$

Since $\log n$ can never exceed n, 2^n must run slower than n^{1000}: $n^{1000} < 2^n$

So the order would be: $2^n > n^{1000} > n^2 > n\log n > n > \log n > 1$