Growth of Functions

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1 Asymptotic Notation

We define a Θ notation as:

$$\Theta(g(n)) = \{f(n)\ \exists c_1, c_2, n_0, 0 \leq c_1 g(n) \leq (f(n)) \leq c_2 g(n); \forall n, n \geq n_0\}$$

That is, a growth function like a sandwich. Noted that both $f(n)$ and $g(n)$ cannot be negative (**asymptotically positive**)
Asymptotically tight bond: for all $n \geq n_0$, the function $f(n)$ is equal to $g(n)$ to within a constant factor

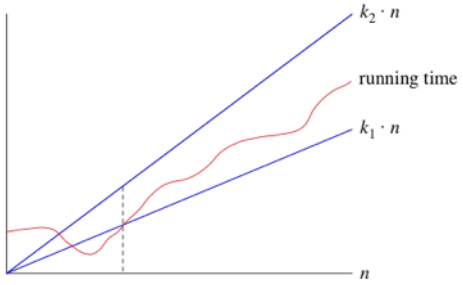

Figure 1: Example of an asymptotic tight bond