5. Data Structures and Algorithms :: Formal Definition of Big O

The formal definition of $O(g(n))$ is:

> A function $f(n)$ is $\mathrm{O}(g(n))$ iff $|f(n)| \leq C \cdot |g(n)|$ for all $n > n_0$ where $C > 0$ is a constant, C and n_0 are both real numbers.

5. Data Structures and Algorithms :: Big O Notation :: Example 1

Let $f(n) = 5$. What is the order of growth of $f(n)$?

In fact, we can prove quite easily that if $f(n)$ is any constant then $f(n)$ is always $O(1)$: