

Theta Notation (Average case scenario)

↳ Average case scenario $f(n) = \Theta(g(n))$

Theta Notation $\left\{ \begin{array}{l} f(n) \leq c_1 g(n) \rightarrow \text{Big O Notation} \\ f(n) \geq c_2 g(n) \rightarrow \text{Omega Notation} \end{array} \right.$

$$\left\{ \begin{array}{l} f(n) = n \\ g(n) = 5n \end{array} \right. \rightarrow f(n) \leq c \cdot g(n) - \text{Case 1}$$

$n \leq c \cdot 5n \rightarrow c = 1/5$

$c = 1$

Case 2 $\rightarrow f(n) \geq c \cdot g(n)$

$n \geq c \cdot 5n \rightarrow c = 1/5$

