Practice Set Asymptotic Notations

1) $1000\ n\log n$ is $O\left(\dfrac{n\log n}{1000}\right) \rightarrow$ **T/F**

   Ans $\rightarrow$ True

2) $n^3 \cdot 64^{\log_{64}^n} = O(n^6) \rightarrow$ **T/F**

   Ans $\rightarrow$ True

3) $64^{\log_2^n} \cdot 32^{\log_2^n} = O(n^5) \rightarrow$ **T/F**

   Ans $\rightarrow$ false

4) $1/n = \Theta(n) \rightarrow$ **T/F**

   Ans $\rightarrow$ False

$$\begin{cases} 1)\ \text{Big O} \longrightarrow f(n) <= c_1 g(n) \\ 2)\ \Omega \longrightarrow f(n) >= c_2 g(n) \\ 3)\ \Theta\ (\text{Average}) \end{cases}$$

      $\hookrightarrow$ (Big O & Ω)