For every given $f(n)$ and $g(n)$ prove that $f(n) = O(g(n))$ or $\Omega(g(n))$:-

Q1: $f(n) = n^3$, $g(n) = n^2$

A1: $\because n^3 \geq n^2$ is true for $n \geq 1$
$\therefore f(n) \geq g(n)$ is true
$\therefore f(n) = \Omega(g(n))$ #

_____

Q2: $f(n) = log(n)$, $g(n) = log^2(n)$

A2: $\because log(n) \leq log^2(n)$ is true for $log(n) \geq 1$
$\therefore f(n) \leq g(n)$ is true
$\therefore f(n) = O(g(n))$ #

_____