Exercise 3.1-7:

$Let\ f(n) = o(g(n)), h(n) = \omega(g(n))$

$\therefore \exists c_1 > 0, N_1 > 0, s.t.\ \forall n > N_1\ f(n) < c_1 g(n)$

$\therefore \exists c_2 > 0, N_2 > 0, s.t.\ \forall n > N_2\ h(n) > c_2 g(n)$

$\therefore \nexists N > 0, s.t.\ \exists n > N, f(n) = g(n)$

$\therefore o(g(n)) \cap \omega(g(n)) = \varnothing$