

Exercise 3.1-6:

$$\because T(n) \leq O(g(n)) \text{ and } T(n) \geq \Omega(g(n))$$

$$\therefore T(n) \geq \Omega(g(n)) \geq O(g(n))$$

$$\therefore O(g(n)) \leq T(n) \leq O(g(n))$$

$$\therefore T(n) = O(g(n))$$

$$\therefore \text{Similarly } T(n) = \Omega(g(n))$$

$$\therefore T(n) = \Theta(g(n))$$