## **Logic and Computation I, Autumn 2024**

Exercise 02-05 Due Date:

## Exercise 2.5.1

- 1. Is  $2^{n+1} = O(2^n)$ ? Is  $2^{2n} = O(2^n)$ ?
- 2. Show  $\max(f(n), g(n)) = \Theta(f(n) + g(n))$ .
- 3. Show  $\log(n!) = \Theta(n \log n)$ .

## Solution: