

CS 1050 Section B, Spring 2001

Homework 2 – due Thursday, February 1

Part I

Problem 1 Exercise 16, page 54.

Problem 2 Exercise 35, page 55.

Problem 3 Exercise 30, page 96. Is the claim true in case f is *not* 1-to-1?

Problem 4 Exercise 32, page 79.

Problem 5 Exercise 40, page 80.

Part II

Problem 6 Exercise 18, page 91.

Problem 7 What is wrong with the following argument? “Since $n = O(n)$ and $2n = O(n)$ and $3n = O(n)$ and so on, we have $\sum_{k=1}^n kn = \sum_{k=1}^n O(n) = nO(n) = O(n^2)$.”

Problem 8 Exercise 26, page 91.

Problem 9 Exercise 28, page 91.

Problem 10 Exercise 36, page 91. If the answer is ‘yes,’ prove the claim. If the answer is ‘no,’ give two functions f and g such that $f(x) = O(g(x))$ but $2^{f(x)} \neq O(2^{g(x)})$.