

CS 1155: Understanding and Constructing Proofs

Spring 1999

Home work 4 // Due: Friday, May 7, 1999

1. (10 points) Exercises 2.5, problem 9 (b) and (c), page 118 of the text.
2. (15 points) Exercises 2.5, problem 10 (a), (b), and (c), page 118 of the text.
3. (15 points) Exercises 2.5, problem 18 (a), (b), (c), (d), and (e), page 119 of the text.
4. (10 points) Exercises 2.6, problem 13 (b), page 129 of the text.
5. (15 points) Exercises 2.6, problem 12 (a), (b), and (c), page 129 of the text.
6. (5 points) Exercises 3.1, problem 6, page 136 of the text.
7. (10 points) Exercises 3.1, problem 10 (a) and (b), page 137 of the text.
8. (10 points) Exercises 3.1, problem 14 (b) and (c), page 137 of the text.
9. (10 points) Suppose S and T are two sets and f is a function from S to T . Let R_1 be an equivalence relation on T . Let R_2 be a binary relation on S such that $(x, y) \in R_2$ iff $(f(x_1), f(x_2)) \in R_1$. Prove that R_2 is also an equivalence relation.