

CS 40 (Fall 2015) – Foundations of Computer Science
Due at 4:00pm, Friday, Oct. 9th

Homework 1

Instructor: Huijia Lin

TA: Abhabongse (Plane) Janthong, Shiyu Ji

Your name and section go here

Total 230 pts

Task 1 — Sets (40 pts)

The following problems are from Section 2.1, Chapter 2 of the prescribed textbook.

1. Problem 4
2. Problem 18
3. Problem 10
4. Problem 20

Task 2 — Set Operations (100 pts)

The following problems are from Chapter 2 of the prescribed textbook.

1. Problem 24 (Section 2.1)
2. Problem 26 (Section 2.1)
3. Problem 27 (Section 2.1)
4. Problem 35—37 (Section 2.1)
5. Problem 2 (Section 2.2)
6. Problem 4 (Section 2.2)
7. Problem 18 (Section 2.2)
8. Problem 26 (Section 2.2)

Task 3 — Relations (90 pts)

The following problems are from Chapter 9 of the prescribed textbook.

1. Problem 1, 4, 6 (Section 9.1)
2. Problem 19, 23—28, 31 (Section 9.3)
3. Problem 25 (Section 9.4) *

* **Note:** It is not required to use Algorithm I for finding the transitive closures. Any appropriate approach could be used to come up with a solution.