COMP 455
Models of Languages and Computation
Fall 2019
Homework 1
Due Tuesday, August 27, 2019

1. True or false:

a. $\{\{a,b\}\} \subseteq \{\{a,b,c\}\}$

b. $\{\{a,b\},\{b,a,c\}\} = \{\{b,a\},\{c,c,a,b\},\{a,a,b\}\}$

c. $\{a,c\} \in \{\{a,b\},c,\{a,c\}\}$

2. Compute the result of these operations:

$(\{a,b\} \cup \{b,c\}) \cap \{a,c,d\}$

3. Compute the result of this composition of two relations:

$\{(a,b),(b,c),(a,d)\} \circ \{(b,c),(c,d),(b,f),(d,f)\}$

For this homework you may work in groups of up to four people if you choose to, and groups are encouraged to turn in only one paper with everyone's names in the group on it. This will make the work of the grader easier.

Those who want to be part of a group and can't find others may meet in the front after class (today or later) and form groups, if you desire to.