

CSC165 tutorial exercise #2

fall 2014

Work on these exercises **before** tutorial. Then you have the opportunity to work with your teaching assistant to master the exercise material, before writing a very brief quiz at the end of tutorial. Here are the tutorial rooms, according to the time you have signed up for in ROSI:

Tutorial section and time	TA, tutorials 1–5	TA, tutorials 5–9	Room	Surnames
L0101, Tuesday 9:10–10:30	Jason Eleni Madina Siamak	Jason Eleni Madina Siamak	BA3012 BA3116 BA2185 BA2175	A–F G–L M–T V–Z
L0201, Monday 7:10–8:30	Ekaterina Gal Yana Christina	Ekaterina Gal Adam Nadira	BA2175 BA1240 BA2185 BA3116	A–D E–Li Liang–S T–Z
L5101, Thursday 7:10–8:30	Christine Elias Yiyan Natalie	Christine Elias Yiyan Natalie	BA3116 BA2135 BA1200 GB244	A–F G–Li Lin–U V–Z

- Let C be a set of courses, and let $P(x, y)$ mean course x is a prerequisite for course y . Rewrite the following symbolically:
 - “There is no prerequisite for CSC108.”
 - “Every course has a prerequisite.”
 - “Some course is not a prerequisite for any course.”
 - “No course is a prerequisite for itself.”
 - “Some courses have several prerequisites.”
 - “No course has more than two prerequisites.”
 - “Some courses have the same prerequisites.”
- Which are true, which are true in one direction, and which are false both directions? Explain your answers.
 - $\forall x \in D, P(x) \wedge Q(x) \iff (\forall x \in D, P(x)) \wedge (\forall x \in D, Q(x))$
 - $\exists x \in D, P(x) \wedge Q(x) \iff (\exists x \in D, P(x)) \wedge (\exists x \in D, Q(x))$
 - $\forall x \in D, P(x) \vee Q(x) \iff (\forall x \in D, P(x)) \vee (\forall x \in D, Q(x))$
 - $\exists x \in D, P(x) \vee Q(x) \iff (\exists x \in D, P(x)) \vee (\exists x \in D, Q(x))$