CSC 4-151 Discrete Mathematics for Computer Science
Quiz 7 December 18, 2014

Solution

name

1. (2 pt. each) For each of the following relations, tell whether or not they are reflexive, symmetric, or transitive, by putting a T or F in the appropriate slot. Following your answer, briefly justify each.

a. The proper subset relation $\subset$ on P({1,2,3}).

_____F_____ Reflexive _____F_____ Symmetric _____ Transitive

$\{1\} \not\subset \{1\}$

$\{1\} \subset \{1,2\}$
but
$\{1,2\} \not\subset \{1\}$

$A \subset B \wedge B \subset C$
$\rightarrow A \subset C$.

b. The divides relation | on the set {1,2,…, 8}.

_____T_____ Reflexive _____F_____ Symmetric _____T_____ Transitive

$\forall a, \ a|a$

$1|2$
but
$2 \nmid 1$

$a|b \wedge b|c$
$\rightarrow a|c$