

Math 2283 - Introduction to Logic

Quiz #10 - 2010.10.15

Name: _____

Let us define our universe to be the set of days of the week, which are symbolically given by

$$V = \{\text{Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday}\}$$

We next define the following relations on the universe V :

$x \mathcal{C} y$ iff x is the day of the week which immediately precedes the day y chronologically. For instance Tuesday \mathcal{C} Wednesday, **as well as** Saturday \mathcal{C} Sunday.

$x \mathcal{L} y$ iff x is a day of the week whose name precedes the name of day y alphabetically. For instance Tuesday \mathcal{L} Wednesday, since the word "Tuesday" precedes the word "Wednesday" alphabetically. In a similar fashion, we also have that Friday \mathcal{L} Wednesday.

1. Determine if the relation \mathcal{C} is any of: reflexive, irreflexive, symmetric, asymmetric, transitive, and connected.

2. Determine if the relation \mathcal{L} is any of: reflexive, irreflexive, symmetric, asymmetric, transitive, and connected.