

Roger Bullock Jr.

Inclass Problems 2

Problem 1)

Let  $R$  is a relation on set  $A$  such that for all  $a \in A$ ,  $aRx$  for some  $x \in A$  (i.e. everybody is related to somebody).

Let  $R$  be symmetric and transitive. By definition of symmetric,  $aRx$  and  $xRa$  therefore  $(a, x) \in R$  and  $(x, a) \in R$ . Also by definition of transitive, since  $(a, x) \in R$  and  $(x, a) \in R$ , then  $(a, a) \in R$ . Thus  $R$  is reflexive.