

Home work:

1) Consider the following relations on the set  $A = \{1, 2, 3\}$ :

$$R = \{(1, 1), (1, 2), (1, 3), (3, 3)\},$$

$$S = \{(1, 1), (1, 2), (2, 1), (2, 2), (3, 3)\},$$

$$T = \{(1, 1), (1, 2), (2, 2), (2, 3)\}$$

$\emptyset$  = empty relation

$A \times A$  = universal relation

Determine whether or not each of the above relations on  $A$  is:

(a) reflexive; (b) symmetric; (c) transitive; (d) antisymmetric

2) for the relation  $R = \{(a, a), (a, b), (b, c), (c, c)\}$  on the set  $A = \{a, b, c\}$ .

Find: (a) reflexive( $R$ ); (b) symmetric( $R$ ); (c) transitive( $R$ ).

