



09- $A = \{a, b, c, d\}$

$A \times A \ni R_1 = \{(a, a), (a, b), (a, c), (a, d), (b, a), (b, b), (b, c), (b, d), (c, a), (c, b), (c, c), (c, d), (d, a), (d, b), (d, c), (d, d)\}$

$R_2 = \{(a, b), (b, a)\}$

$R_3 = \{(a, c), (c, a)\}$

$R_4 = \{(a, d), (d, a)\}$

$R_5 = \{(R_2 \cup R_3)\}$

$R_6 = \{(R_2 \cup R_4)\}$

$R_7 = \{(R_3 \cup R_4)\}$

$R_8 = \{(a, a), (a, b), (b, a)\}$

$R_9 = \{(b, b), (a, b), (b, a)\}$

$R_{10} = \{(c, c), (a, c), (c, a)\}$

$R_{11} = \{(d, d), (a, d), (d, a)\}$

$R_{12} = \{(a, a), (b,$

10-

