

DISCRETE STRUCTURES – QUIZ #6

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2-BSCS-2

List the ordered pairs in the relation R from $A = \{ 0, 1, 2, 4 \}$, where $(a, b) \in R$ if and only if

a. $a = b$

$$R = \{(0, 0), (1, 1), (2, 2), (3, 3)\}$$

b. $a + b = 4$

$$R = \{(1, 3), (2, 2), (3, 1), (4, 0)\}$$

c. $a > b$

$$R = \{(1, 0), (2, 1), (2, 0), (3, 2), (3, 1), (3, 0), (4, 3), (4, 2), (4, 1), (4, 0)\}$$

d. $a \mid b$

$$R = \{(1, 0), (1, 1), (1, 2), (1, 3), (2, 0), (2, 2), (3, 0), (3, 3), (4, 0)\}$$

e. $\gcd(a, b) = 1$

$$R = \{(0, 1), (1, 0), (1, 1), (1, 2), (2, 1), (1, 3), (3, 1), (4, 1), (2, 3), (3, 2), (4, 3)\}$$