

RELATIONS

$$\text{Let } A = \{1, 2\}, B = \{1, 2, 3\}$$

$$A \times B = \{(1, 1), (1, 2), (1, 3), (2, 1), (2, 2), (2, 3)\}$$

All subsets of $A \times B$ are relations from A to B .

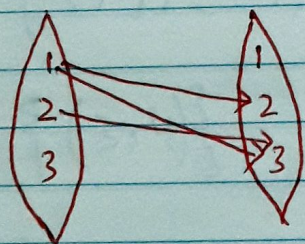
$$\text{Domain of a Relation} = \{a \in A \mid (a, b) \in R\}$$

$$\text{Range of a Relation} = \{b \in B \mid (a, b) \in R\}$$

$$\text{Let } R = \{(a, b) \in A \times B \mid a < b\}$$

- (a) Find the ordered Pairs in R : $R = \{(1, 2), (1, 3), (2, 3)\}$
(b) Find the Domain & Range in R : $D = \{1, 2\}$, $R = \{2, 3\}$
(c) IS $1R3$, $2R2$, $3R2$? I
Yes ~~No~~ No

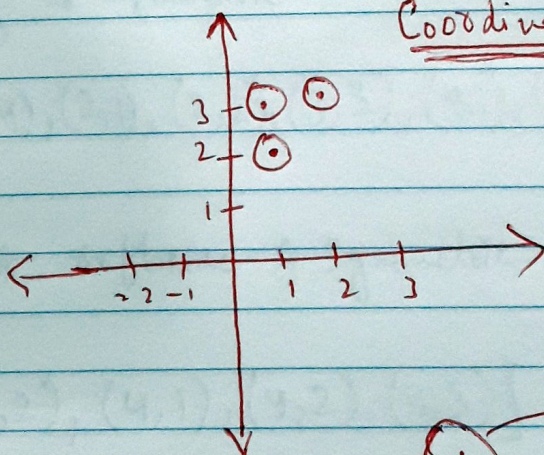
Arrow Diagram



Matrix

	1	2	3
1	0	1	1
2	0	0	1
3	0	0	0

Coordinate Graph



Directed Graph

