Date.....

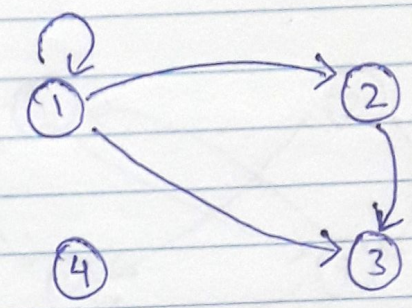
3- Transitive

$\forall a,b,c \in A$, if $(a,b) \in R \wedge (b,c) \in R$ then $(a,c) \in R$

$R_1 = \{(1,1),(1,2),(1,3),(2,3)\}$

	1	2	3	4
1	1	1	1	0
2	0	0	1	0
3	0	0	0	0
4	0	0	0	0

No identification



~~If~~ three nodes have indirect Path than 1st & 3rd have direct Path.

or Forms a triangle

4- Antisymmetric

$\forall a,b \in A$, if $(a,b) \wedge (b,a) \in R$ then $a = b \in R$

$R_1 = \{(1,2),(2,2),(2,3),(3,4),(4,1)\}$

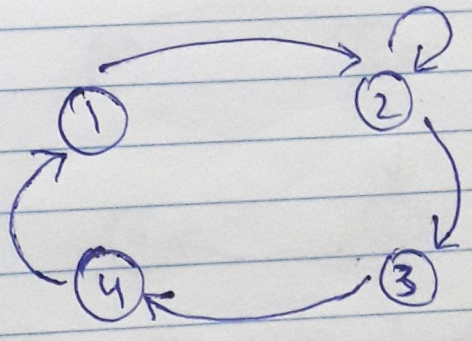
	1	2	3	4
1	0	1	0	0
2	0	1	1	0
3	0	0	0	1
4	1	0	0	0

$M_{ij} = M_{ji} \quad i \neq j$

$M_{12} = M_{21}$

$M_{23} = M_{32}$ $\quad 1 = 0$

$1 = 0$



no Pair of arrows between distinct node

No bidirectional link