HW.
P 518 - 521.

Ex. "GRAPH"

Set of Vertices.

Set of Edges.

$G = (V, E)$.

⟶ Types.

1- Infinite Graph : Set of Vertices = Infinite.

2- Finite " : " " " = finite

3- Simple Graph :- Each edges Connects Distinct pair of Vertices. X loops
X multiedges.

4- multi Graph : multiedge.
Same pair of Vertices
Connected 7/1 edge.

5- Pseudograph : possibly.

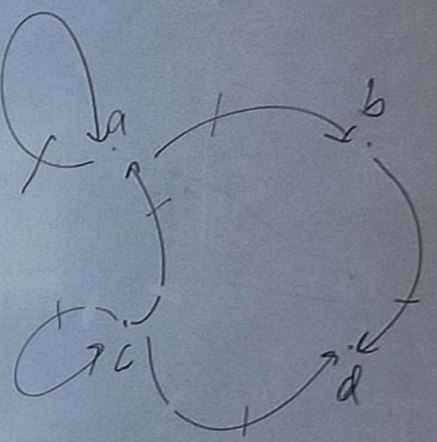
6- Undirected. - loops.

7- Null Graph. - multiedges.

8. Mixed Graph : Contain both
Directed + Undirected.

Ex 1 / P536.

$V = \{a, b, c, d\}$.



P537.

HAND SHAKING THEOREM.

$$e = \sum_{v \in V} \deg^-(v) = \sum_{v \in V} \deg^+(v).$$

$$\sum_{v \in V} \deg^-(v) = \deg^-(a) + \deg^-(b) + \deg^-(c) + \deg^-(d)$$

$$2 + 1 + 1 + 2 = 6$$

$$\sum_{v \in V} \deg^+(v) = \deg^+(a) + \deg^+(b) + \deg^+(c) + \deg^+(d)$$

$$= 2 + 1 + 3 + 0 = 6.$$

Ex 1 / P536.

$V = \{a, b, c, d\}$

$$2e = \sum_{v \in V} \deg(v) = \sum_{v \in V} \deg^-(v) + \sum_{v \in V} \deg^+(v).$$

$$e = \sum_{v \in V} \deg(v). - \sum_{v \in V} \deg^+(v).$$

HAND SHAKING THEOREM.

$$2e = \sum_{v \in V} \deg(v).$$

$$= \deg(a) + \deg(b) + \deg(c) + \deg(a) + \deg(c)$$

$$= 3 + 4 + 3 + 4 + 2$$

$$2e = 16$$

$$e = 8$$

$\deg(a) = 3$

$(b) = 4$

$(c) = 3$

$(d) = 4$

$(e) = 2$

16

Ex 1 / P536.

$V = \{a, b, c, d, e\}$.