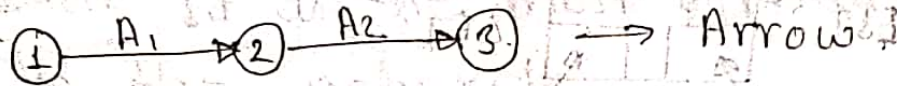


## Types of Network :-

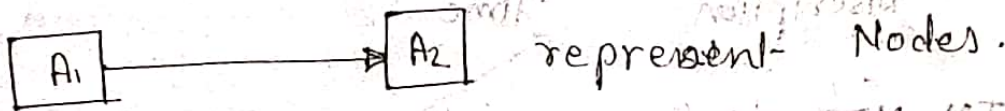
① A-O-A Network { Activity on Arrow }

② A-O-N Network { Activity on Node }

Ex



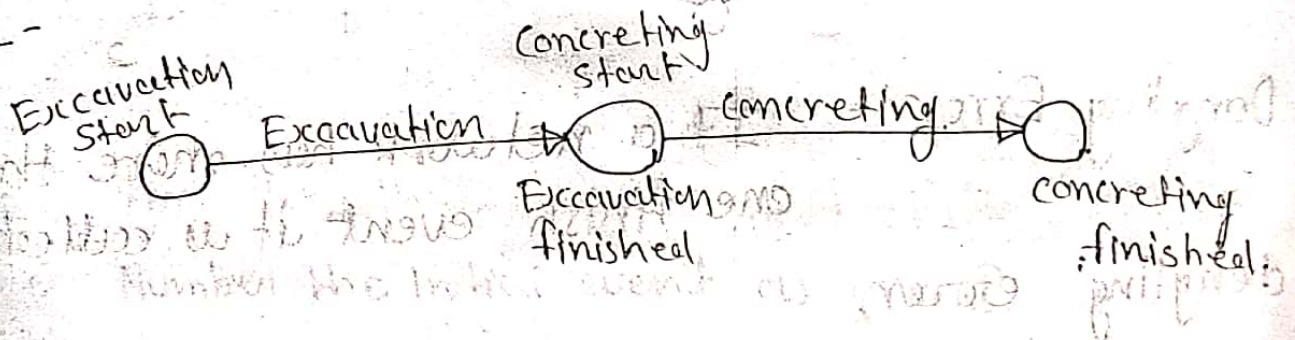
Ex.



③ A-O-A Network' - In this type of Network activities are represented on arrow, which is bounded by nodes. Nodes represent start and finish time of that activity.

Note :- The main disadvantages of A-O-A Network is formation of dummies.

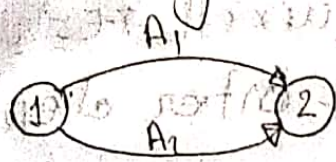
Ex :-



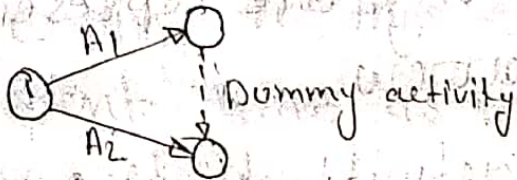
Activities of Nodes :- It is also known as precedence network. In this type of network activities are represented on nodes. Nodes may be circular or square. The arrow in this network represent inter dependency b/w two activities. There is no events in this network.

To remove the grammatical error we require dummy activity.

Ex: - ①



Not recommended

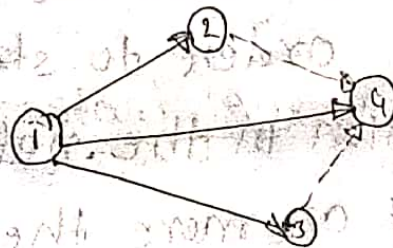


Correct Network

②



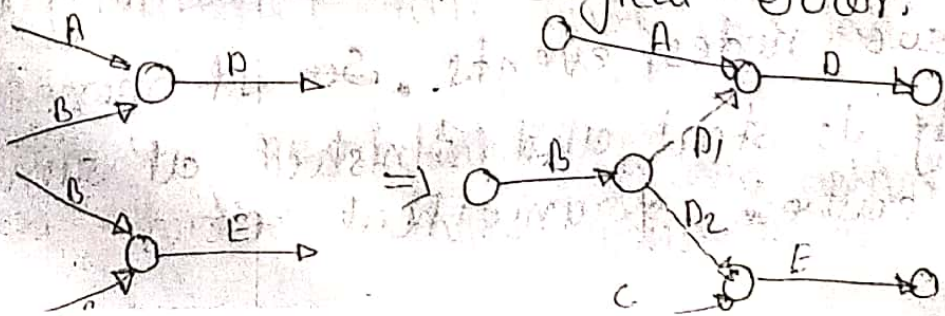
Not recommended



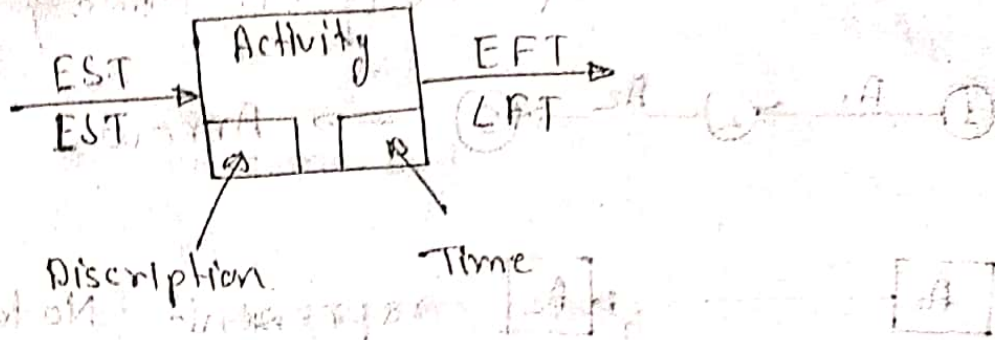
Correct Network

Logical purpose :- Dummies are used to establish a uniqueness of activity in the network, it means if a single activity in a network is being represented by more than one arrow it is called logical error.

Ex: -

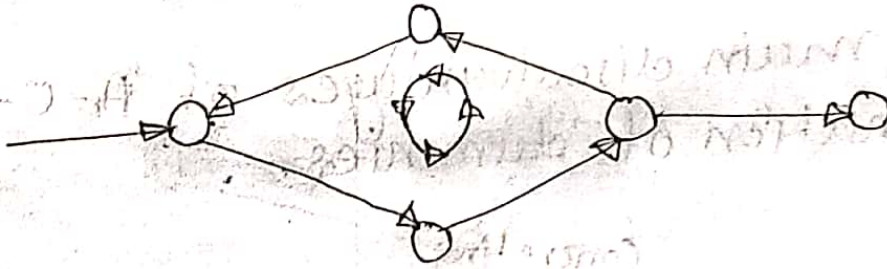


Note 1, As the activities are represented on nodes, so there is no need of dummy

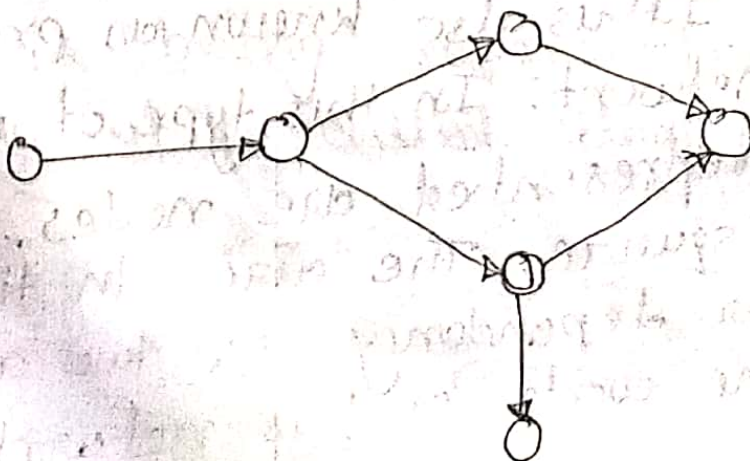


### ERRORS IN NETWORK

Looping Error - If an event occurs more than one in the ~~over error~~ network it is called looping Error.

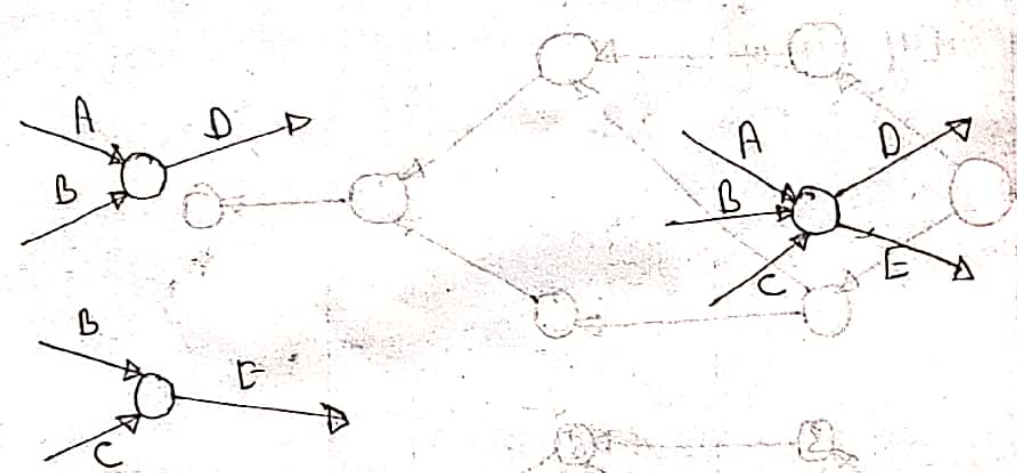
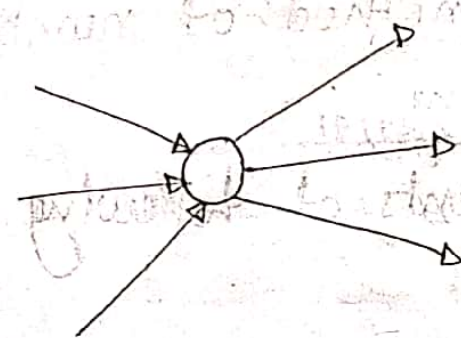


Dangling Error - If a network has more than one finish event it is called dangling error.



Wagon wheel Error - If a network source that does not exist actually in the project it is called wagon wheel Error.

It is the most difficult error to spot in the network.



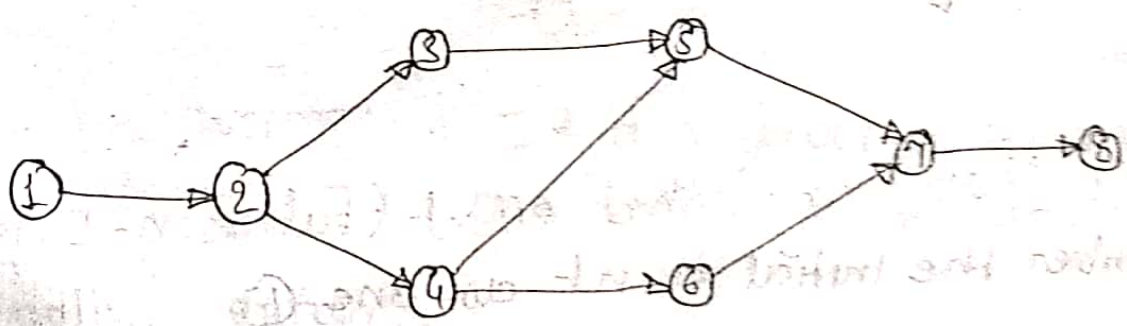
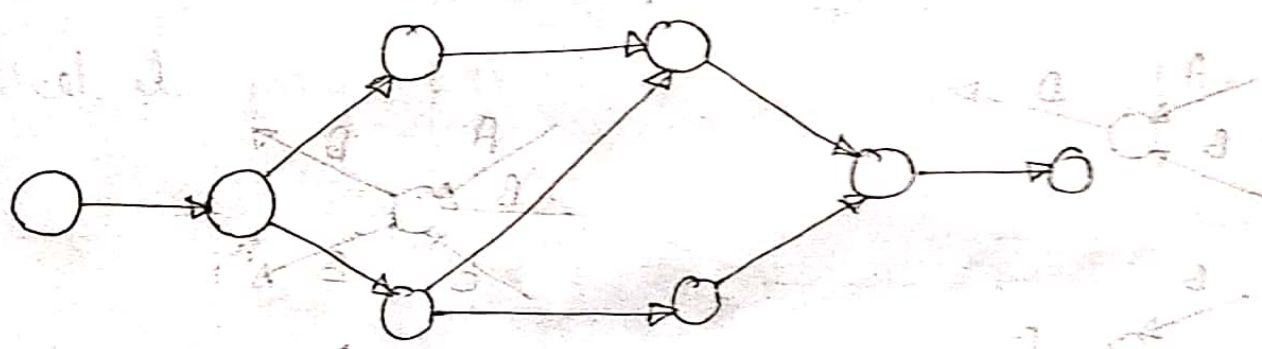
Rules for Numbering the event (Fulkerson-Error)

- ① Number the initial event as one (1)
- ② Remove all the outgoing activities / arrows from this initial event. It will lead to the development of one or more initial events.
- ③ Number these new initial events sequentially.
- ④ Repeat step No. ② and ③ until all the events are numbered.

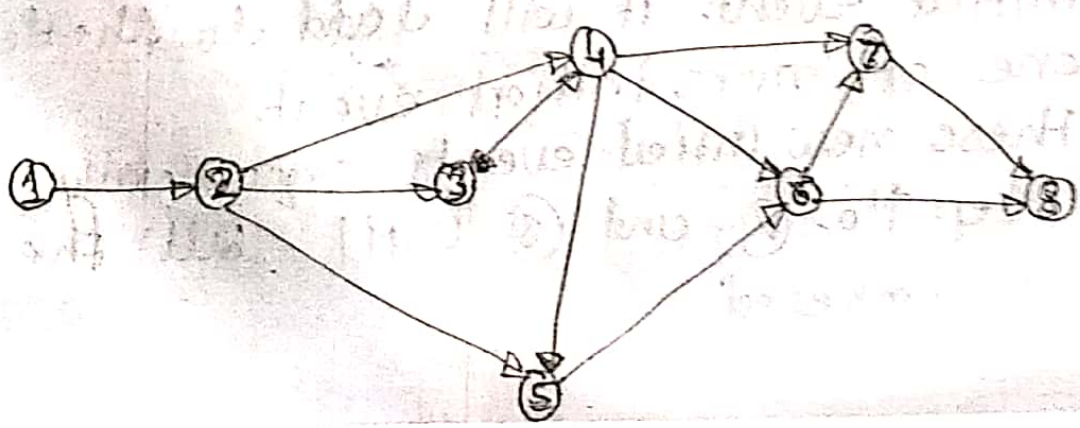
Note:- In <sup>begin</sup> complete project during controlling if any new events are added or existing events are removed that renumbering of the network will be required. In such case to avoid the renumbering. The entire network event are not numbered sequentially but are numbered intermittently. This method of numbering is called skip numbering.

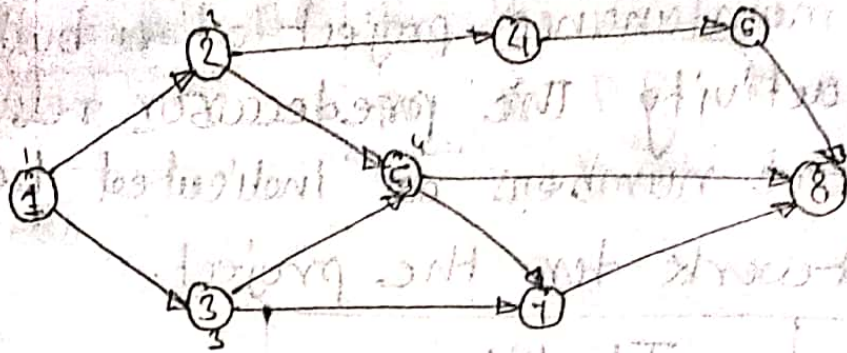
Question:- Number the events of following network using Fulkerson rule

①



②





Question :- In a small construction project there are 6 activities identified from G<sub>1</sub> to L. The following are the relationships b/w the different activities.

- ① G<sub>1</sub> is the first activity to be performed
- ② H and I can be done concurrently and must follow G<sub>1</sub>,
- ③ H must precede J.
- ④ K must succeed I, But it can not start until H is completed
- ⑤ The last operation L dependent on the completion of both J and K draw the network and no. the events.

Solution

