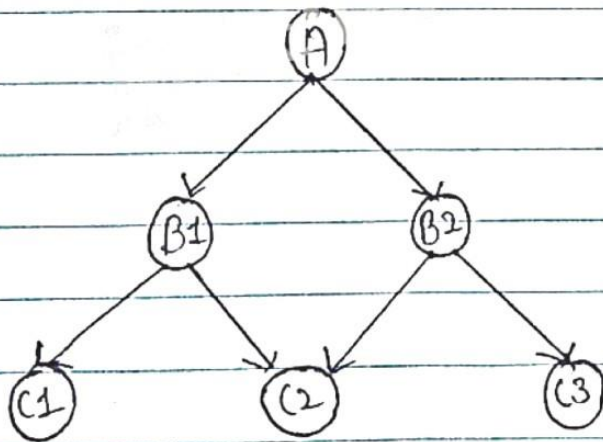


# ( Network Model )

## (2) Network Model :-

- This is an extension of the Hierarchical model.
- In this model, data is organised more like a graph and are allowed to have more than one parent node.
- This was the most widely used database model, before Relational Model was introduced.



- For example A book database where an author can have many books and a book could have more than one author.
- The relationships between specific records of 1:1 (one to one), 1:N (one to many) or M:N (many to many) are explicitly defined in database definition of this model.

## \* Operations on Network Model :-

- (i) Insertion :- The insert operation is used to insert a new record in the database.
- (ii) Deletion :- The deletion operation is used to delete a record from the database.
- (iii) Update :- Since the record appears only once in the network model so changes made to any attributes or columns of the record can be performed easily without any inconsistency unlike the hierarchical model.
- (iv) Retrieval :- The retrieval operation i.e. process of searching and fetching a record.

## \* Advantages and Disadvantages of Network Model :-

## \* Advantages of Network Model:-

- (i) The network model is also conceptually simple and easy to design.
- (ii) The network model can handle the one to many and many to many relationships.
- (iii) The data access is easier and flexible than the hierarchical model.
- (iv) The network model does not allow a member to exist without an owner.

## \* Disadvantages of Network Model:-

- (i) The network model is much more complicated than the Hierarchical model.
- (ii) The structure of Network model is quite complicated.
- (iii) The design of the model is not user-friendly.