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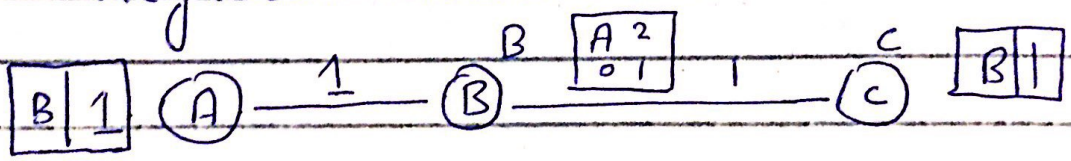
Section (B)

Computer Networks

Assignment #3

=> Distance Vector Routing:-

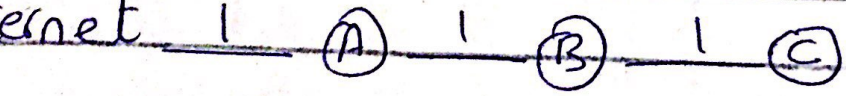
It is a method of finding the shortest path route for the packet. It is calculated by Bellman ford's equation, by sending the tables to their neighbour nodes.



There are some problems that comes during these algorithm which are:

=> 2 nodes instability

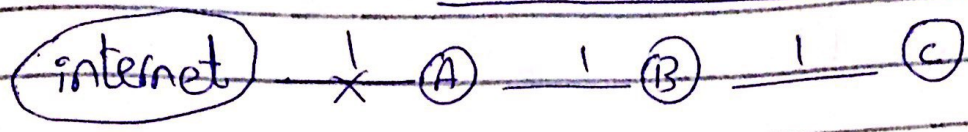
Normal case:



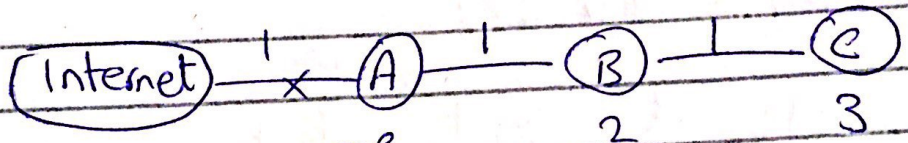
This is normal case, because there is no disconnection.

⇒Special Case:

Count to infinity problem:



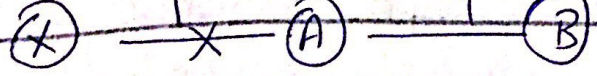
When the connection of A is terminated from internet, it's value is updated to infinity. But the neighbour of A which is B and C does not know that the connection is terminated because we only send the exact cost ~~and~~ not send the path.



So, that's how they are updating their tables until they searched infinity.
(And connection is not terminated)
Broken link ⇒ Cost increased

Solution:

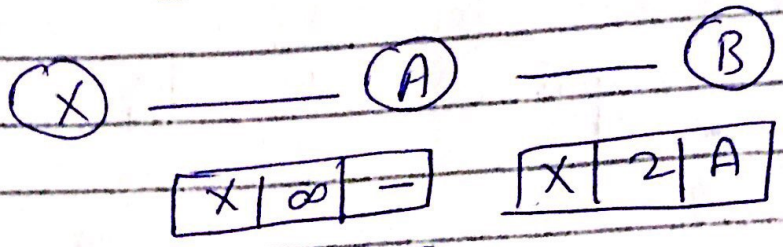
1) Defining Infinity: Redefining infinity to smaller nucleus, such as 16 in stability in a fewer updates



⇒When this connection terminates, update value with ∞.

if node B, does not advertise the piece of information to A, since this route was already disconnetd from A.

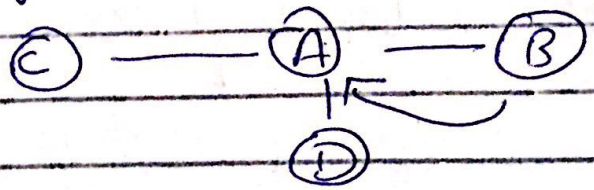
So, when node A send its table to B. it becomes infinity.



⇒ Request Problem

2) Split Horizon:

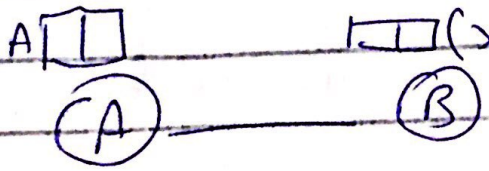
In this, each node sends its part of table through each node.



Suppose, if B node has some update then it send to A but if the same update is of node A, then there is no need to send the update of A to B, because their update value is same, We actully because loop:
∵ A send to B, but B not send!

1 Disadvantage:-

We know that every node has a specific time to update their table. When the time out, the node deletes the table.

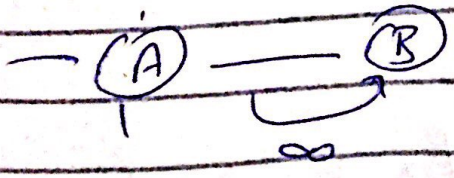


*B want to update the table, but time out!
It delete it!

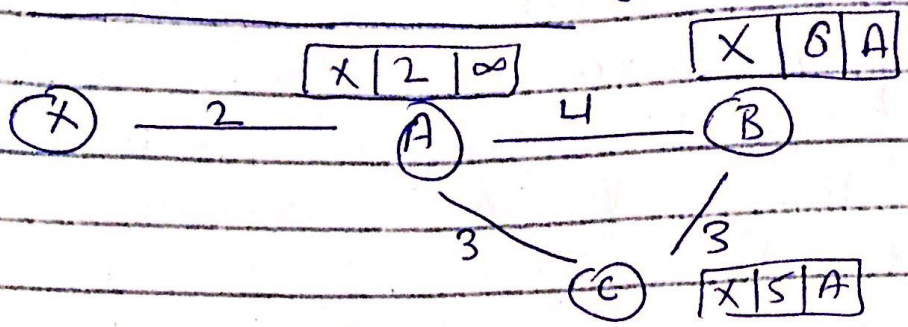
To get rid of thing, we use (Paison reserved)

3) Poison Reverse:-

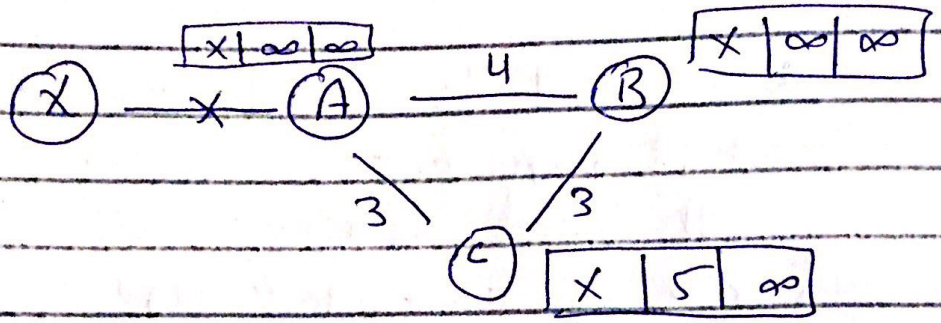
This strategy dedicate that node B can still advertise the value for X, but if the source of information is A, it can replace the distance with infinity as a warning.



Three node instability:



⇒ (Before disconnect connection)



⇒ Suppose, somehow C does not update table because its information lost during routing