Unicast Routing Protocol - Routing Information Protocol (RIP)

Distance Vector Routing

keys to understand how this algorithm works:
- Sharing knowledge about the entire AS.
- Each router shares its knowledge about the entire AS with neighbours. It sends whatever it has.
- Sharing only with immediate neighbours. Each router sends whatever knowledge it has through all its interface.
- Sharing at regular intervals. sends at fixed intervals, e.g. every 30 sec.

Steps for populating routing table.
1. Initialization - At the beginning, each node knows only the distance between itself & it's immediate neighbors those are directly connected.
2. Sharing & Update –
   - Each node shares its partial routing table with its immediate neighbors periodically (30 sec.) and when there is a change (triggered update).
   - The neighbors add this knowledge to their own knowledge and sends the updated table to their own neighbors. In this way, routers get its own information plus the new information about the neighbors.
   - The receiving node follows the following steps to update it's table -
     a) Adds the cost between itself and sending node to each value of the table.
     b) Adds the name of the sending node to each row as third column.
     c) Compares each row of it's old table with the corresponding row of the modified version.
        - If next node entry is different, smaller cost row is selected.
        - If there is a tie , old one is kept.
        - If next node entry is same, the receiving node chooses the new row.

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