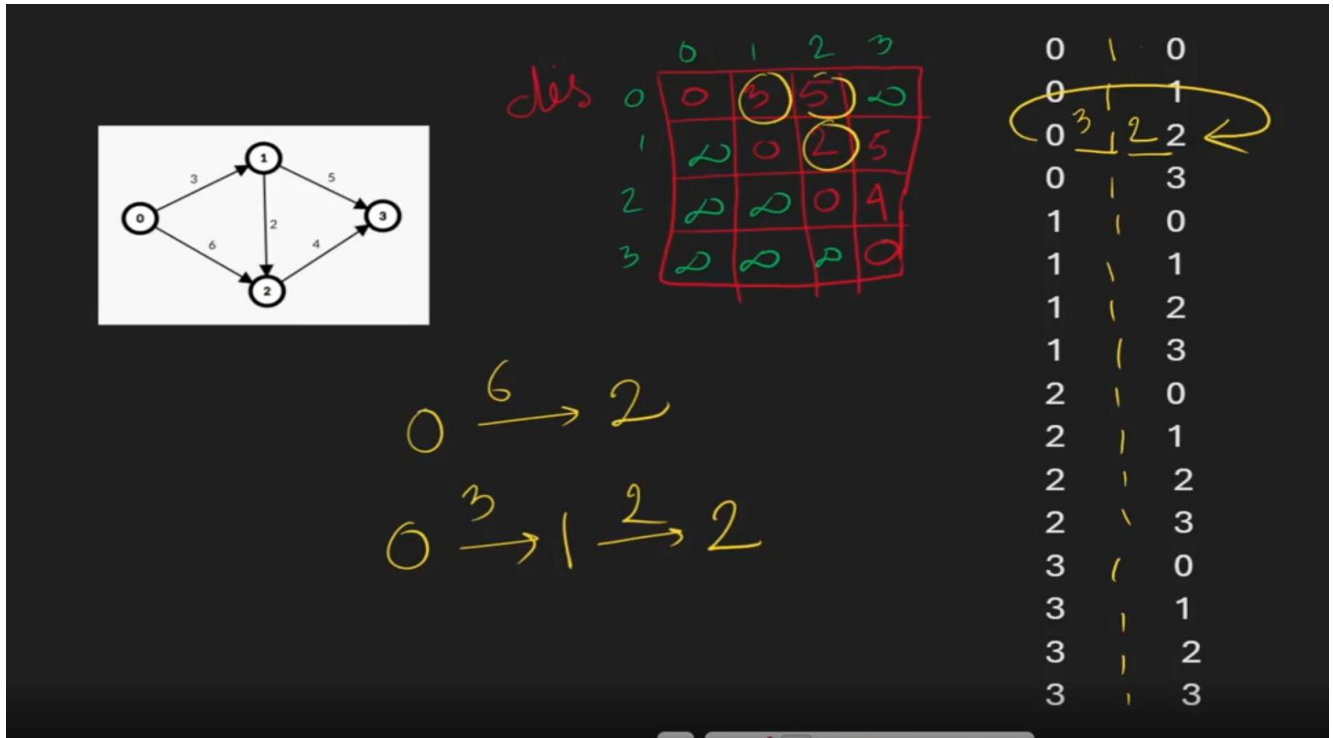


# Floyd Warshall Algorithm

# Complexity -  $O(V^3)$

# proti node thake proti node ar shortage distance ber kore day ai algorithm



we need to check  
i thake j jaowa better naki  
i thake k, k thake j jaowa better

```
// main kaj
for (int k = 0; k < n; k++)
{
    for (int i = 0; i < n; i++)
    {
        for (int j = 0; j < n; j++)
        {
            if (adj_mat[i][k] != INT_MAX && adj_mat[k][j] != INT_MAX &&
                (adj_mat[i][k] + adj_mat[k][j]) < adj_mat[i][j])
            {
                adj_mat[i][j] = adj_mat[i][k] + adj_mat[k][j];
            }
            // cout << i << " " << k << " " << j << endl;
        }
    }
}
```

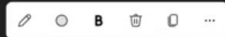
DFS -  $O(V+E)$  -> Traverse

BFS -  $O(V+E)$

[softhandshakil@gmail.com](mailto:softhandshakil@gmail.com)

Dijkstra -  $O(E \log V)$

Bellman-Ford -  $O(VE)$



Floyd-Warshall -  $O(V^3)$  -> Multiple source

