Graph can be Represented By :

1. **Adjacency Matrix :** 2D Array
   Matrix[i][j] = **1** {Undirected, Unweighted}
   Diagonal is for **self loop** in the matrix.
   For **weighted graph** we will put, Matrix[i][j] = $\mathbf{W_{ij}}$ {weight of an edge }

   DrawBack : Can't express **Multi Edge** precisely.
   For Weighted graph its not possible

2. **Adjacency List :** List or Vector
   For every node, how many node we can visit will store with a list/vector

   Unweighted :
   Self loop : pushback the value on its own index 1 = 2, 1
   Multi Edge : pushback same edge multi time. 3 = 1, 1, 2 (3 edge)

   Weighted :
   Weighted value will be paired up in a list/vector with the connected nodes.

   E.x = 0 = [1, 4], [2, 6] Here, means that, from 0 we there are edges on 1, 2 with weighted value 4, 6 sequentially.

3. **Edge List :**