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Fleury's Algo →

→ Euler Path: - visits each edge of graph exactly once. It may start & end at a different vertex.

→ A graph contain Euler path only if it has 0 or 2 odd degree vertices

→ Euler Circuit → It start & end at same vertices. A graph contain Euler circuit only if it has 0 odd degree vertices.

→ Bridge → A edge such that removing it from graph disconnects the graph into 2 connected components. Bridge Never be part of cycle.

~~FE~~ FLEURY'S ALGO →

1. Make sure that the graph G is connected & contains exactly 2 or 0 odd degree vertices

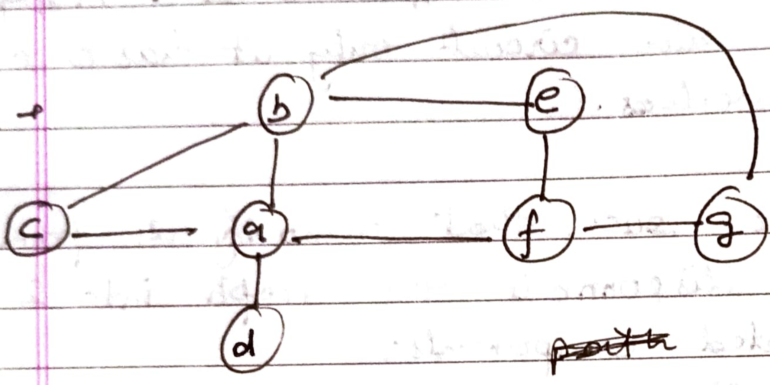
2. Choose start vertex. If graph contain odd vertices, then it must be one of them. If graph contain only even vertices, then any vertex can be taken as starting vertex.

3. If there are zero neighbors of v, then algo is complete.

4. If there is only one neighbor of v. Let the neighbor be u. Set v = u & delete the edge (v, u). Go back to step 3

5. If there is more than one neighbor of v in G. choose vertex u such that edge (v, u) is not a bridge edge in G. Set

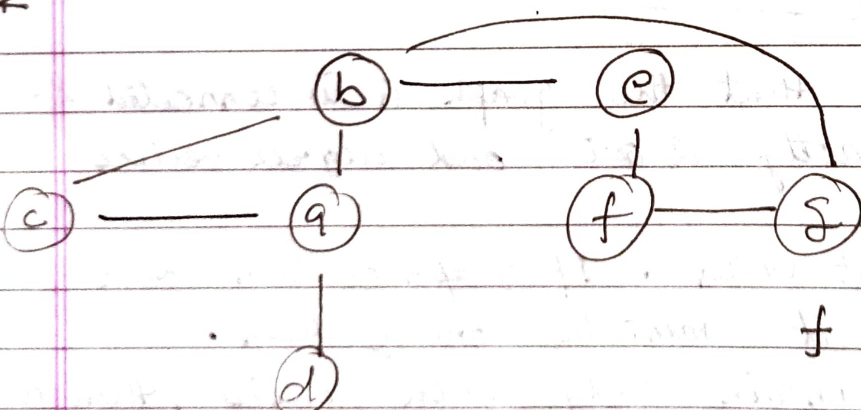
Ex →



~~path~~

Step 1 → f & d have odd degree. chose one of them. choose f ; path f

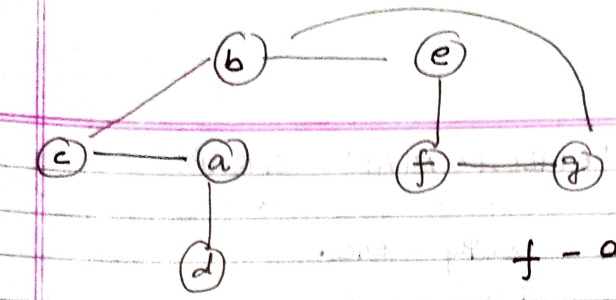
Step 2 → travel to a set v = a, delete (f, a)



f – a

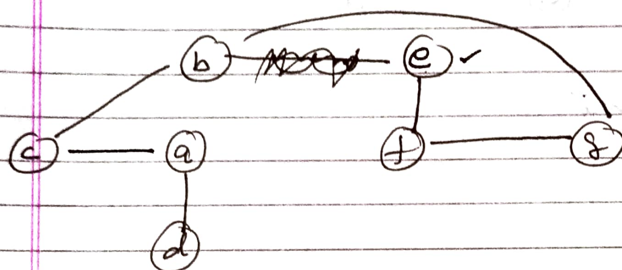
can not travel a to d, since (a, d) is bridge travel to b. Set v = b & delete (a, b)

f – a – b

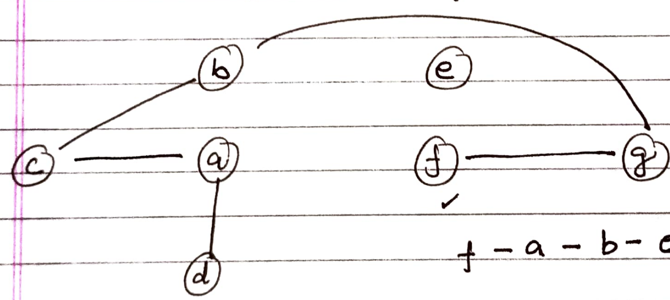


f - a-b - e

⇒ Can not travel c since (b,c) is bridge travel to e, Set v= e & delete (b,e)

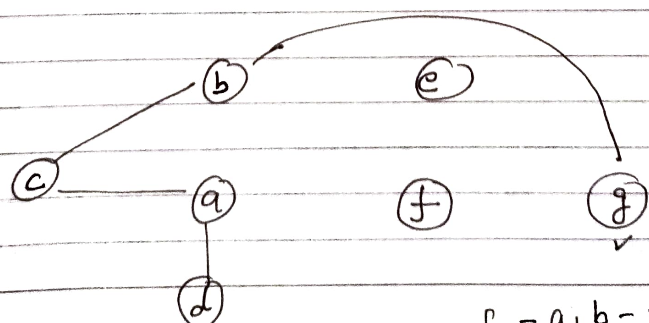


⇒ We can travel to f, Set v=f & dellete (f,e)



f - a - b - e - f

⇒ travel to g. Set v=g, & delete (f,g)



f - a, b - e - f - g