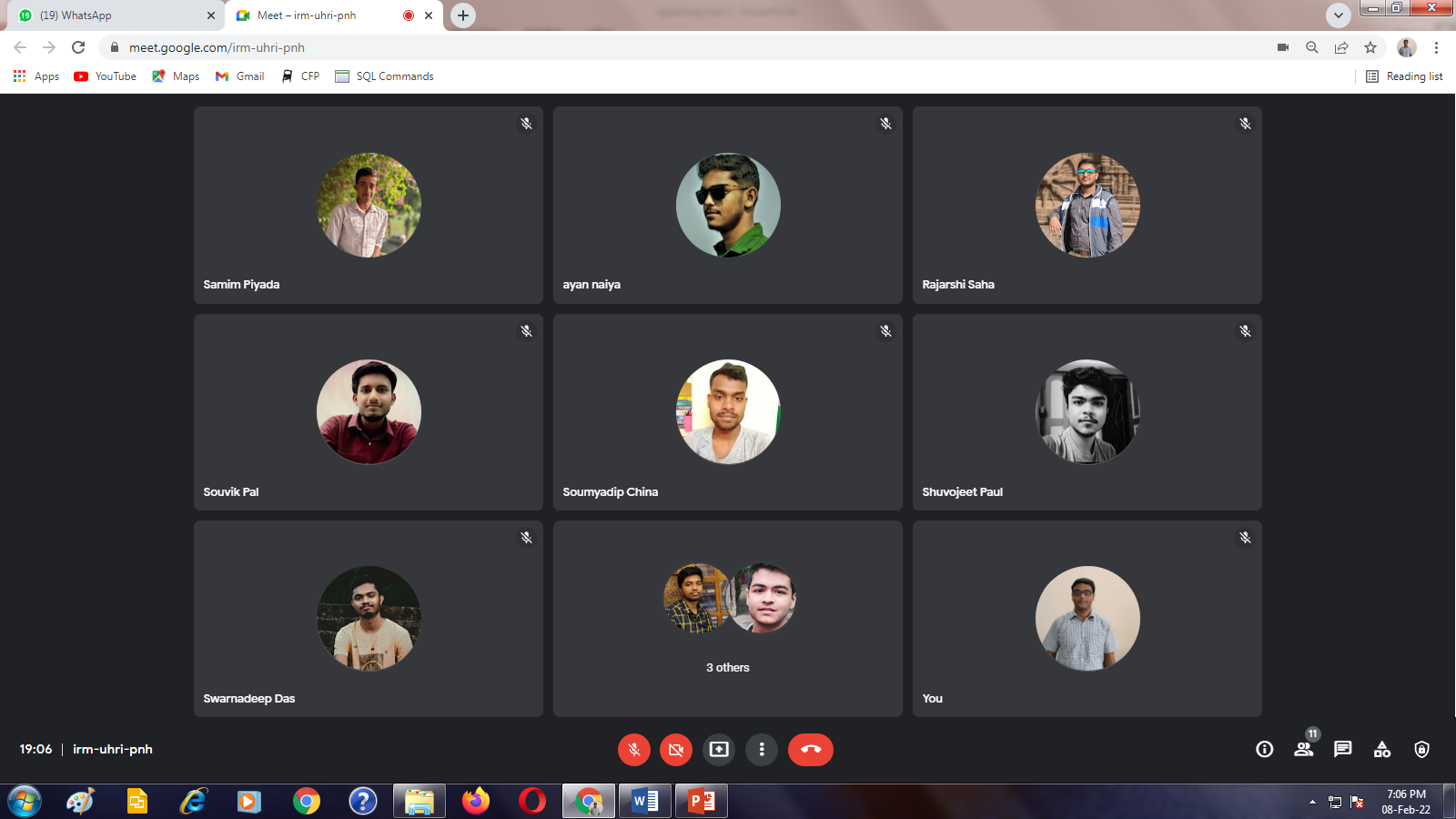
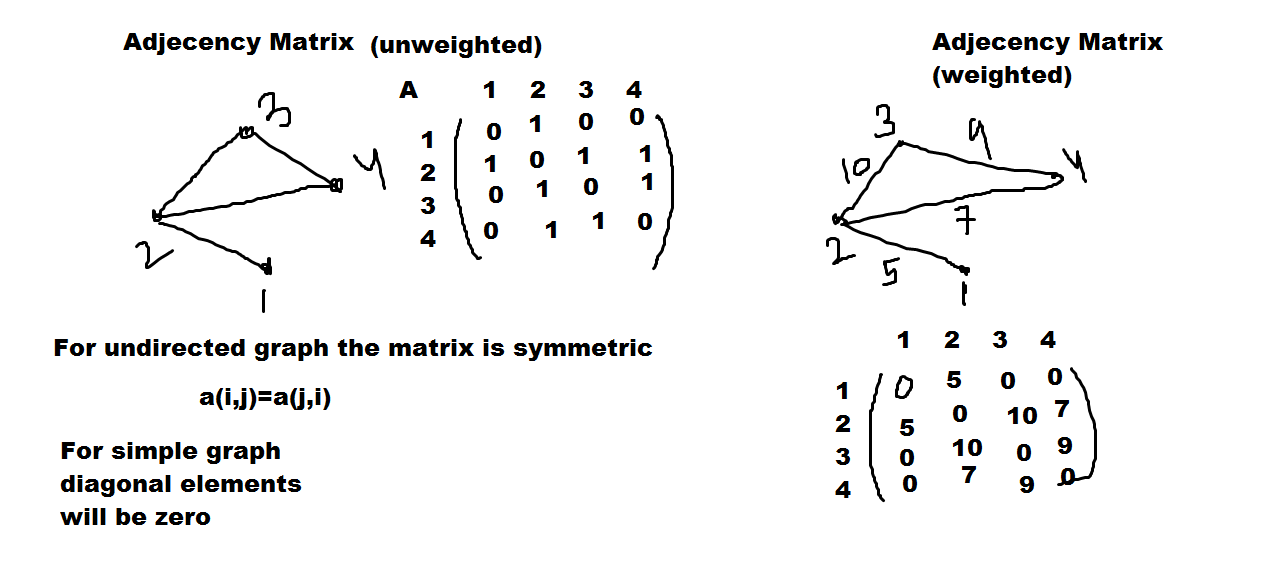
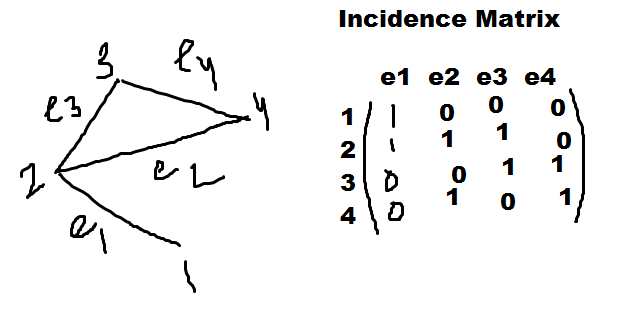
**CLASS 08/02/2022**

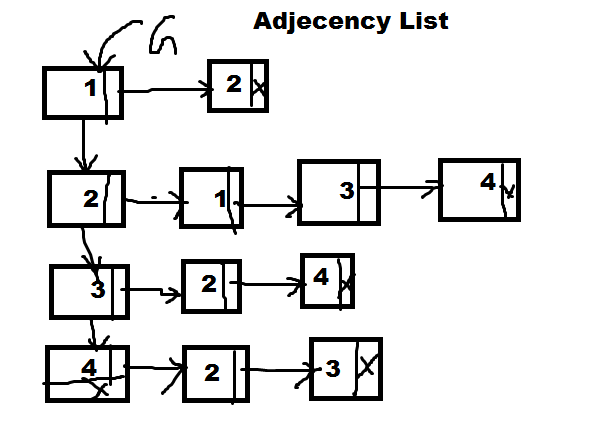
**GRAPH THEORY**



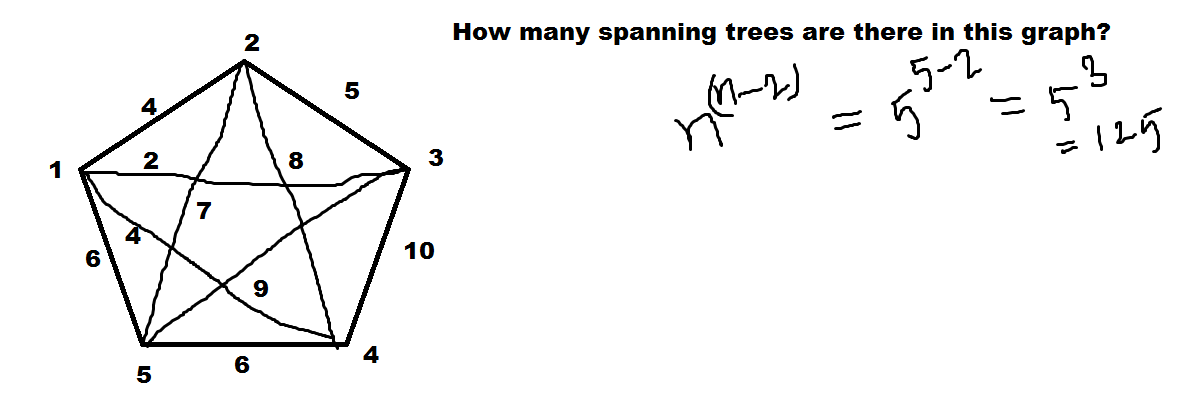
**How a graph is represented in computer?**

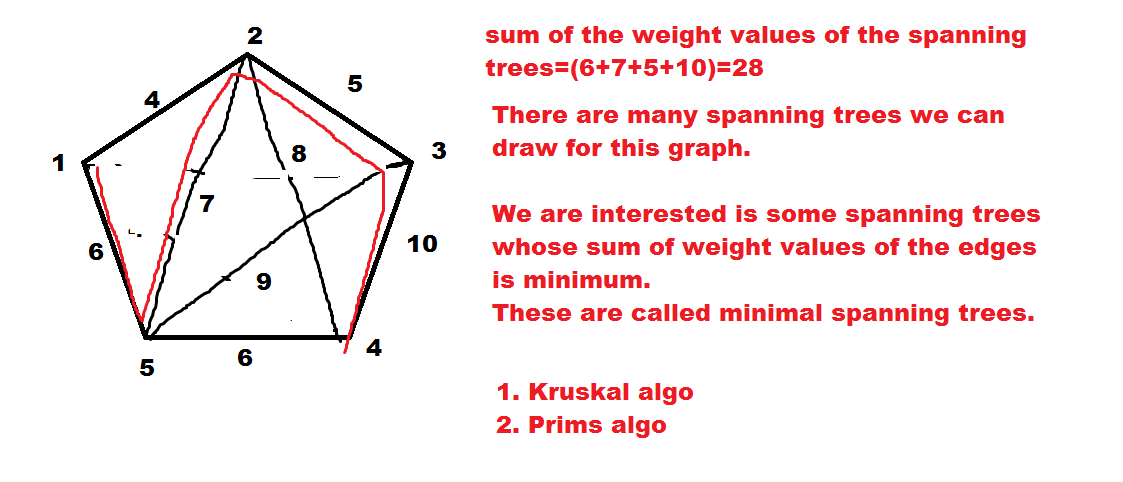
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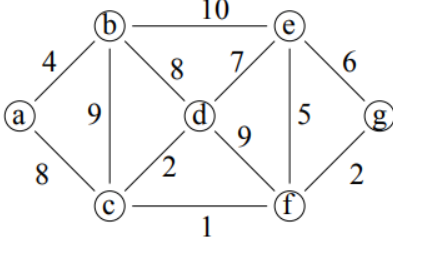
**Spanning tree of a weighted graph**

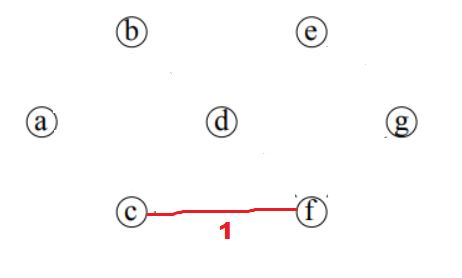
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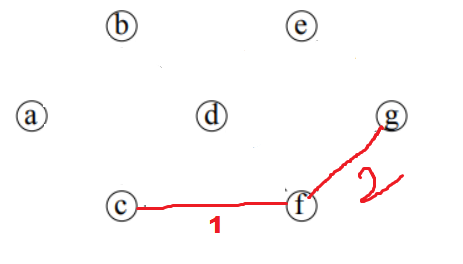
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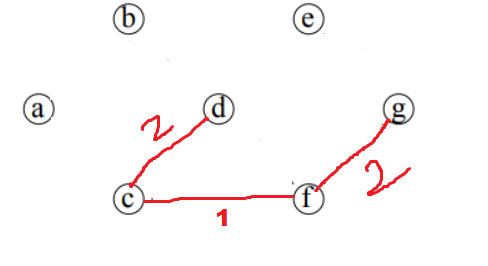
**Kruskal Algorithm**

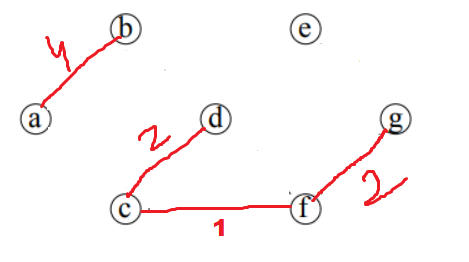
* Sort the edges of the graph on weight values in ascending order
* Select the edges in ascending order and add the edges in NULL graph consecutively such that adding an edge does not form a cycle.
* Stop the process of adding edges when n-1 edges added where n=order of the graph.

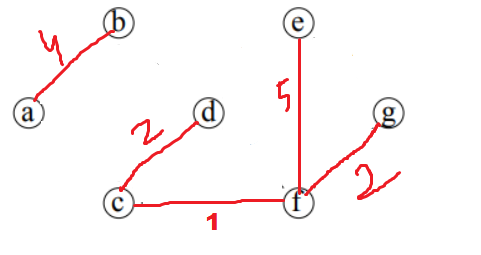
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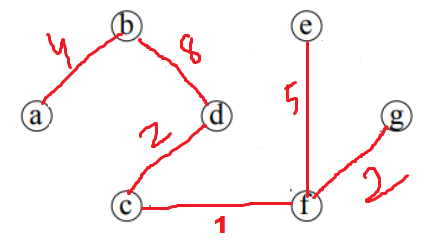
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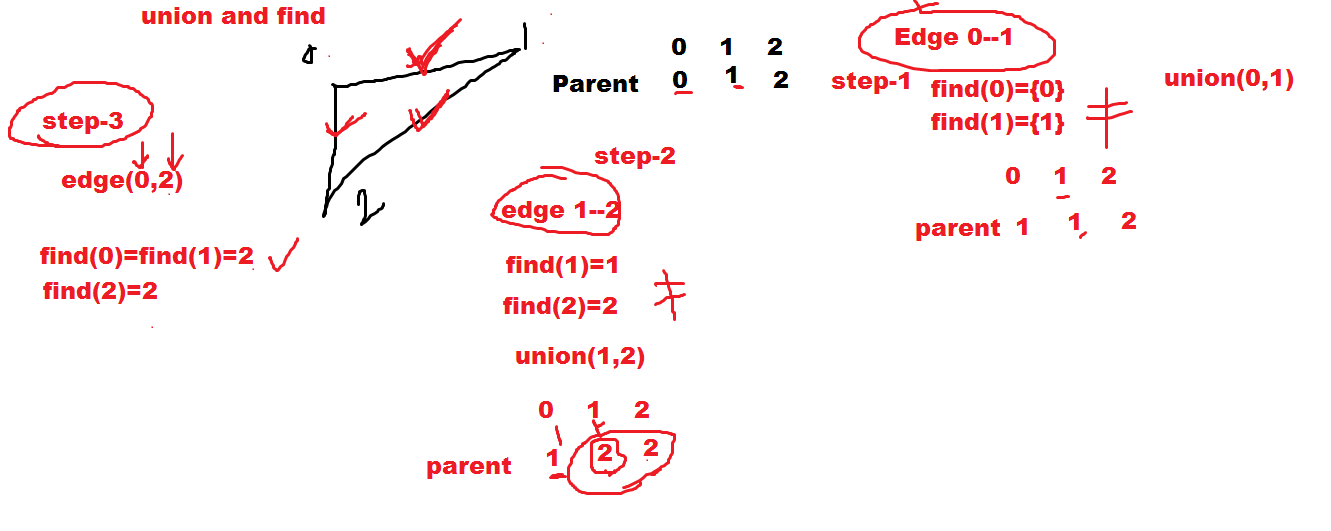
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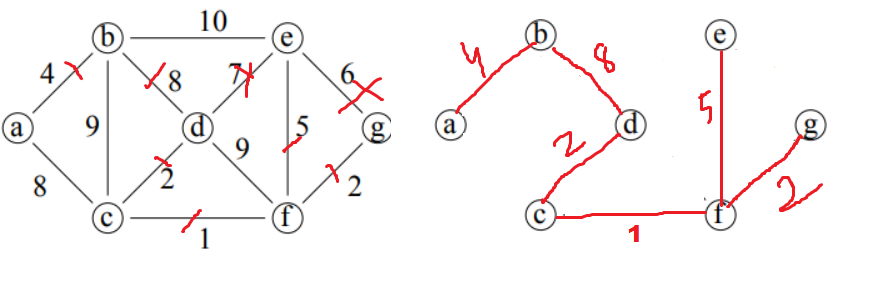
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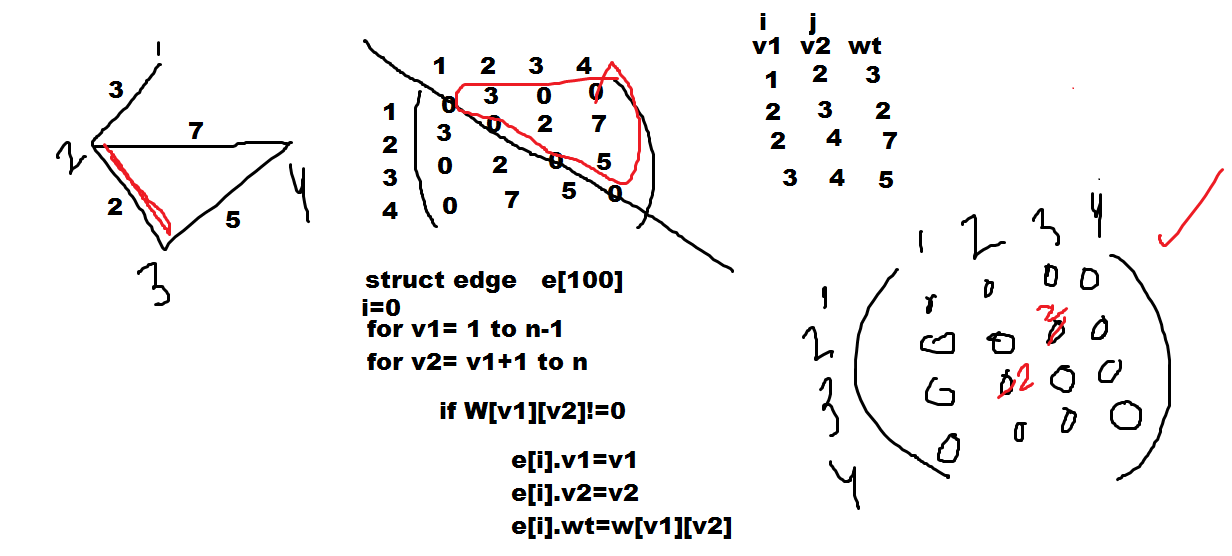
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**Minimum spanning tree=(4+8+2+1+5+2)=22**

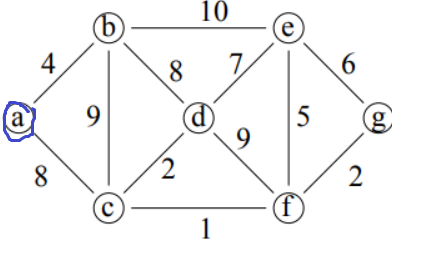
**Cycle Detection Algorithm**

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**Prim’s Algorithm**

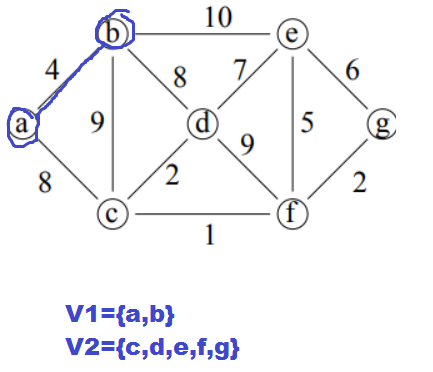
****

Select any arbitrary vertex say a, make two vertex set

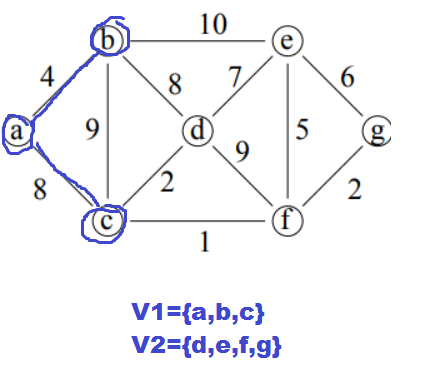
V1={a}

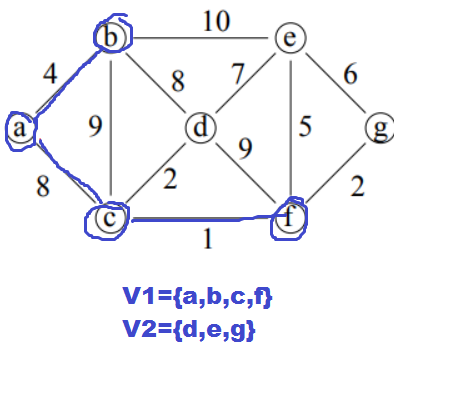
V2=V-V1={b,c,d,e,f,g}

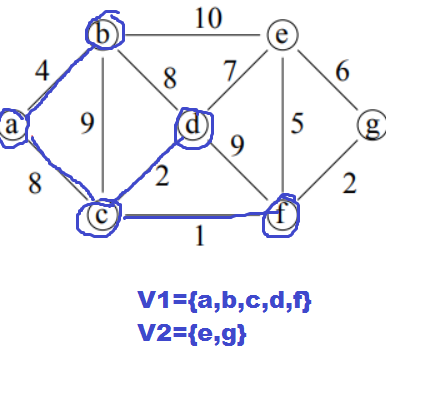
Now the edges S whose one end vertex in V1 and other in V2 are called cross edges. Select the lightest cross edge e from S and add the end vertex of e that is in V2 to V1.

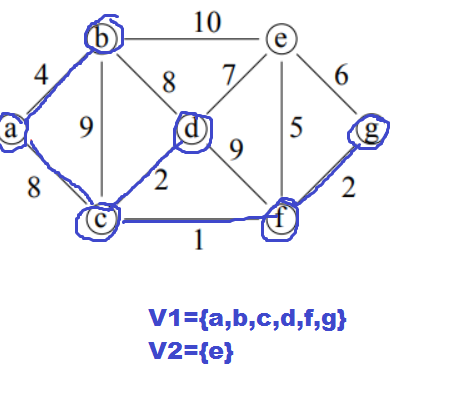


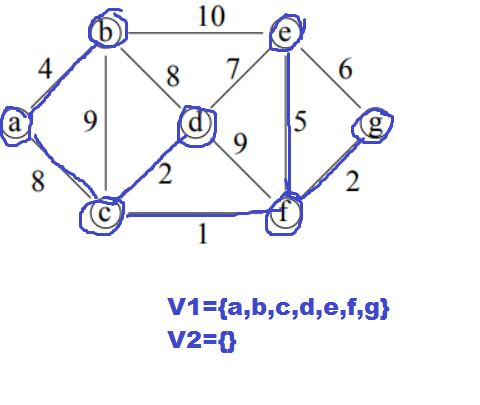
Now repeat the process until V2 becomes Ф.











Cost=(4+8+2+1+5+2)=22