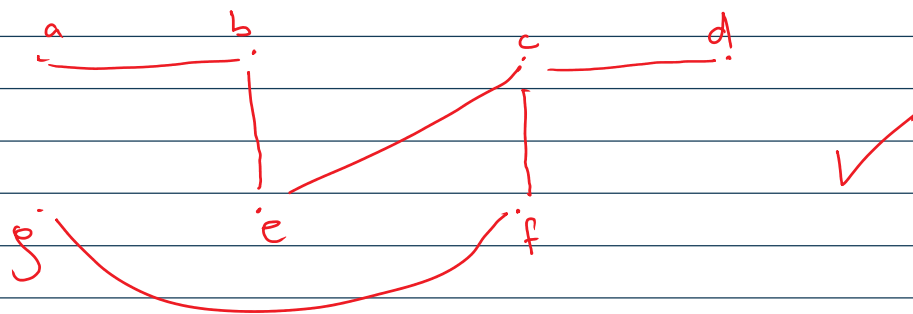
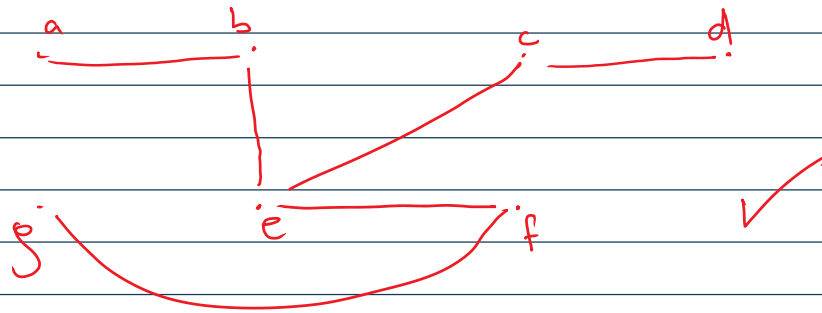
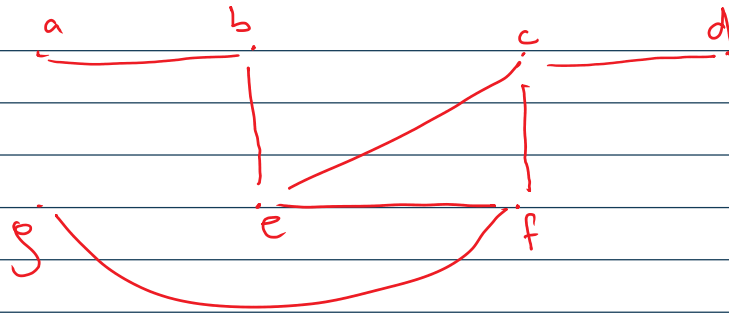


## lecture 24:-

### SPANNING TREE.

- 1- Subgraph of Original Graph.
- 2- Tree.
- 3- Contains all Vertices of Original Graph.

Ex 1:-  
663.

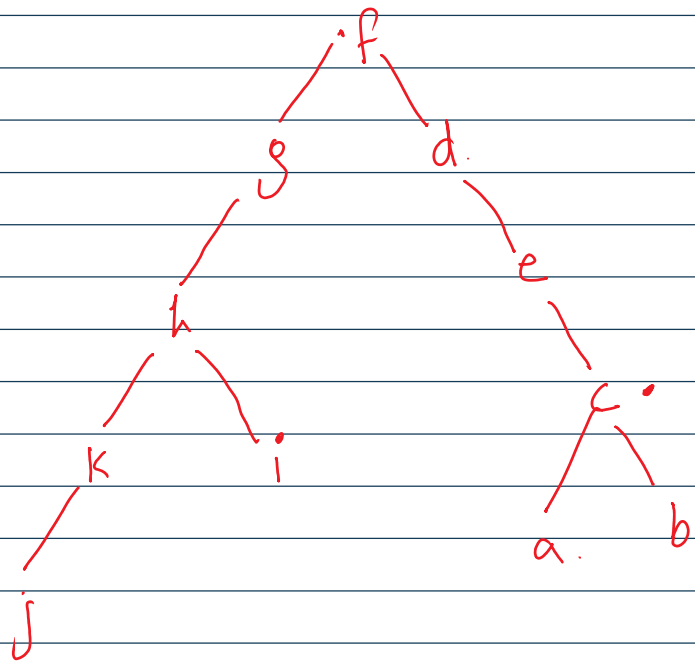
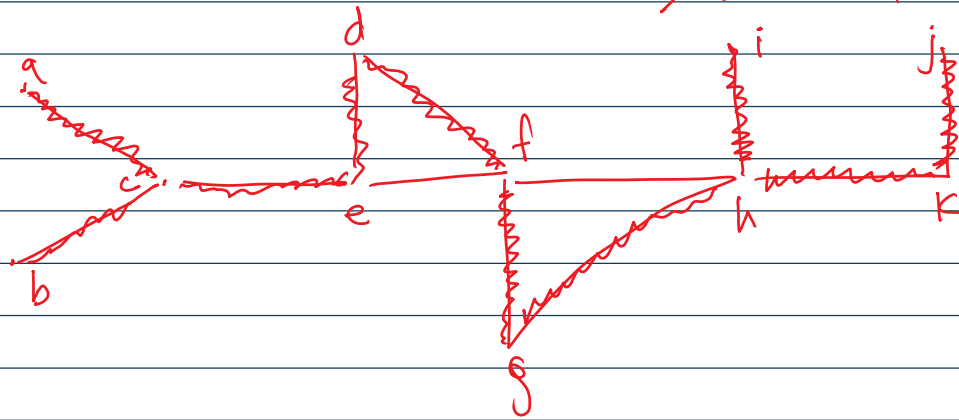


TECHNIQUES FOR CONSTRUCTING  $G$

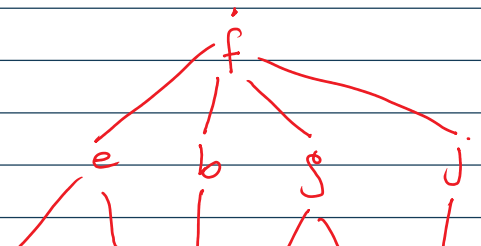
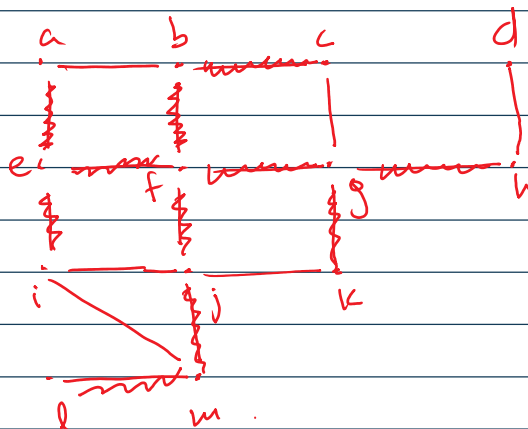
# SPAWNING TREES.

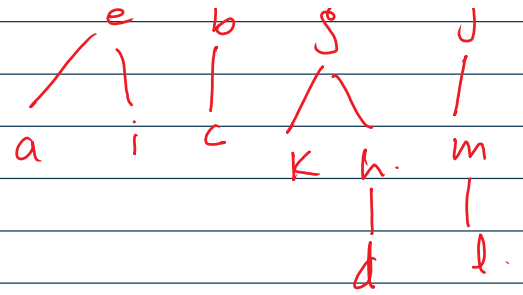
1) BREADTH FIRST.

2) DEPTH FIRST.



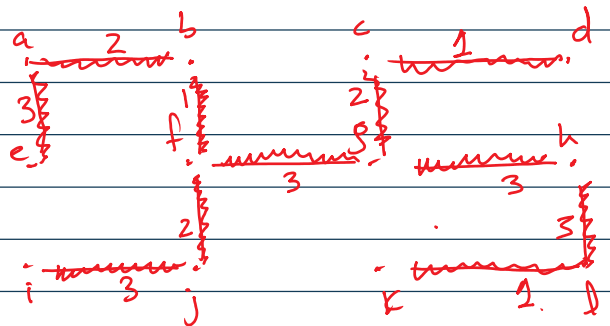
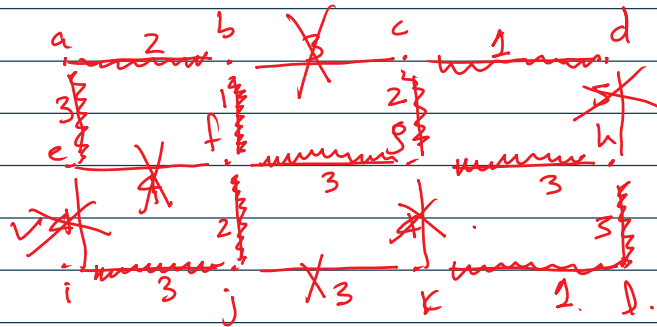
Ex5  
667





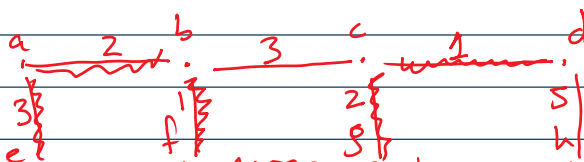
## Minimum Spanning Tree.

Prims.

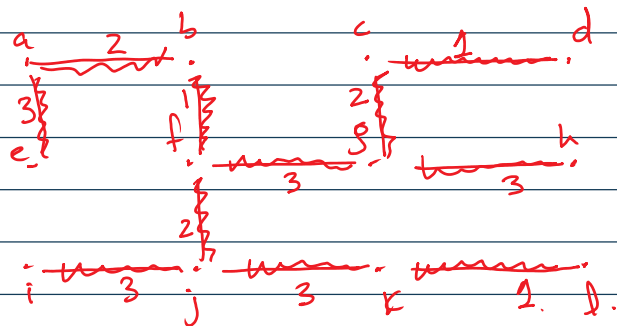
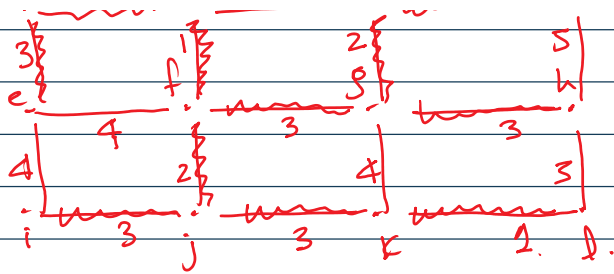


Edge	Weight
1) (b,f)	1.
2) (a,b)	2.
3) (f,i)	2.
4) (a,e)	3.
5) (i,j)	3.
6) (f,g)	3.
7) (c,g)	2.
8) (c,d)	1.
9) (g,h)	3.
10) (h,i)	3.
11) (k,l)	1.
<hr/>	
	24.

KRUSKAL.



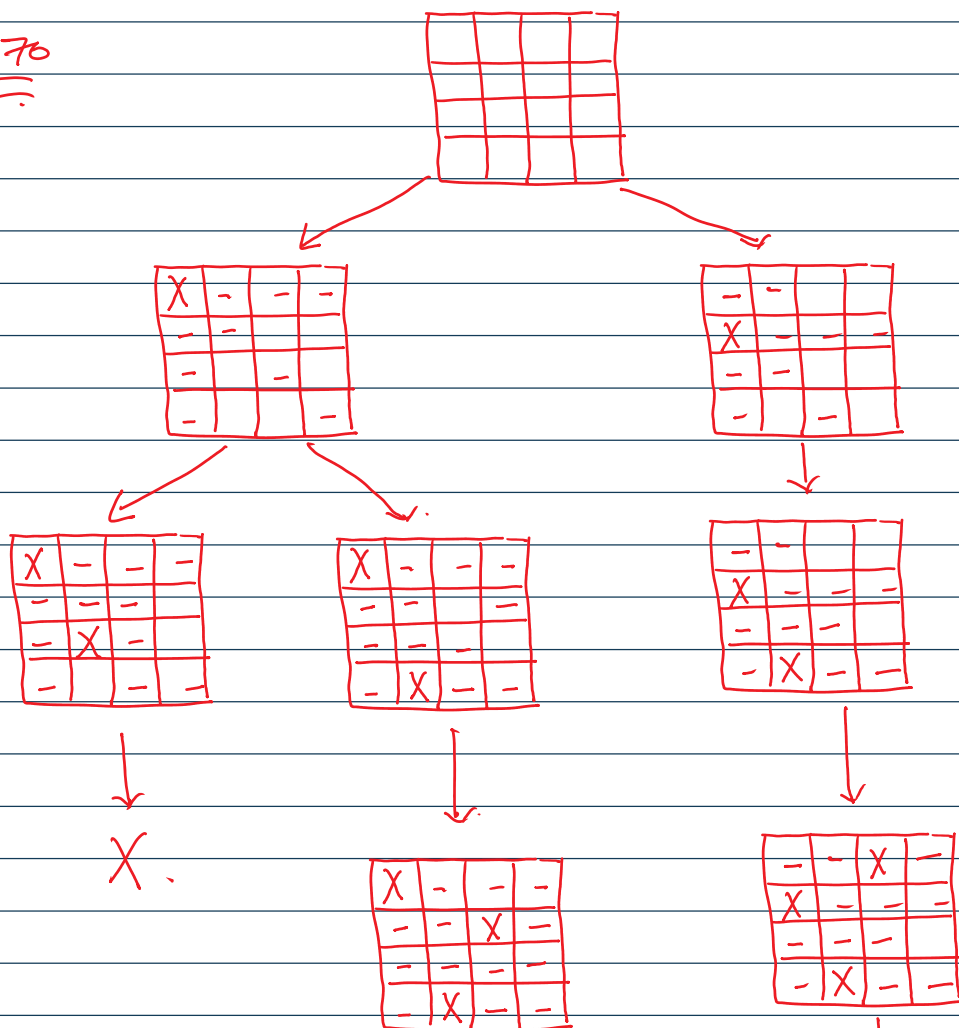
Edge	weight
(b,f)	1.
(c,d)	1.
(k,l)	1.
...	...

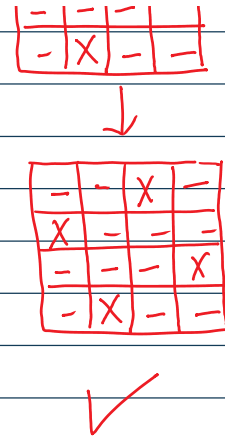
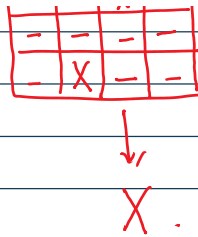


win	1.
(k,l)	1.
(f,j)	2.
(a,b)	2.
(c,g)	2.
(a,e)	3.
(i,j)	3.
(g,h)	3.
(f,g)	3.
(j,k)	3.
<hr/>	
	24.

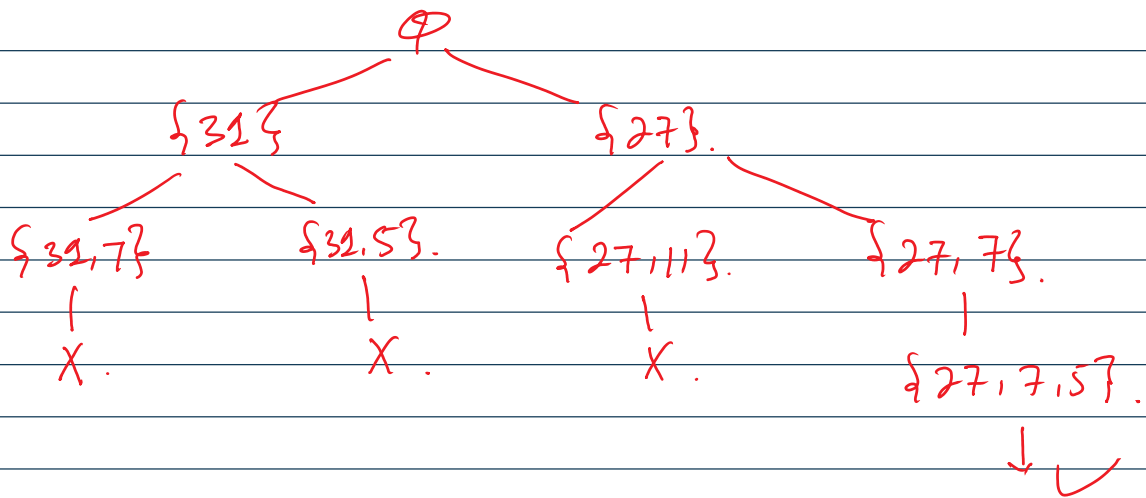
## BACKTRACKING.

P670

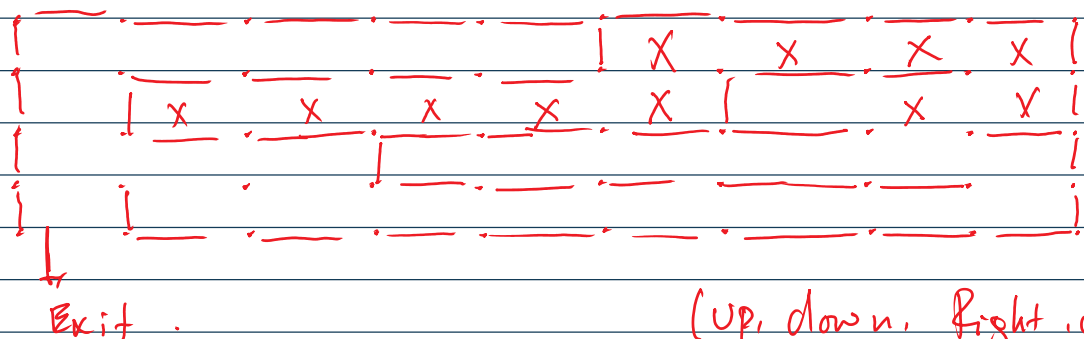




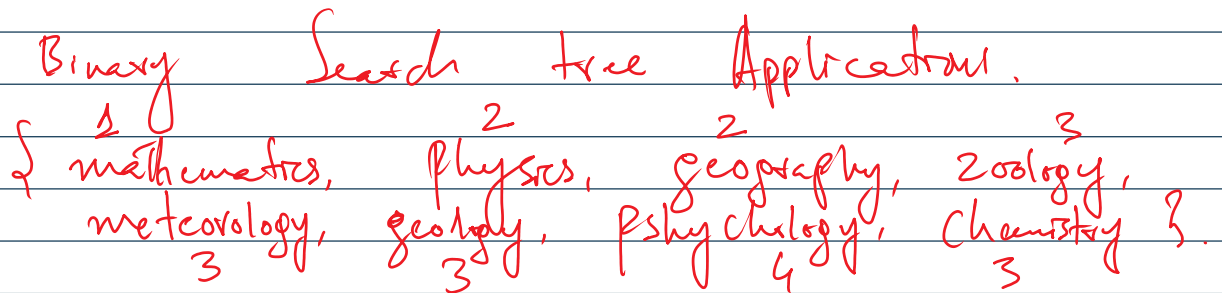
P. 672 Sums of Subset.  $\{31, 27, 15, 11, 7, 5\}$ . 39.



## SPANNING FOREST PROBLEM.



(up, down, right, left).



2.6

```
graph TD; math[mathematics] --- geo[geography]; math --- phys[physics]; geo --- chem[chemistry]; geo --- geol[geology]; phys --- met[meteorology]; phys --- zoo[zoo]; phys --- psych[psychology]
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