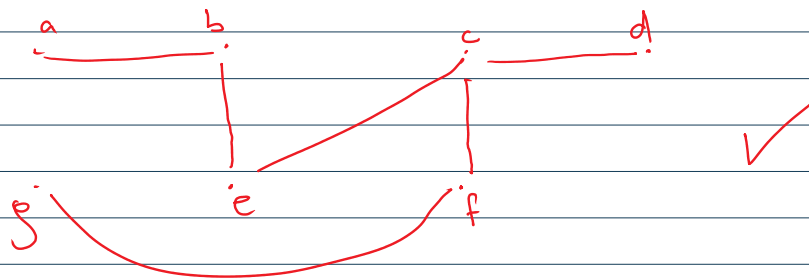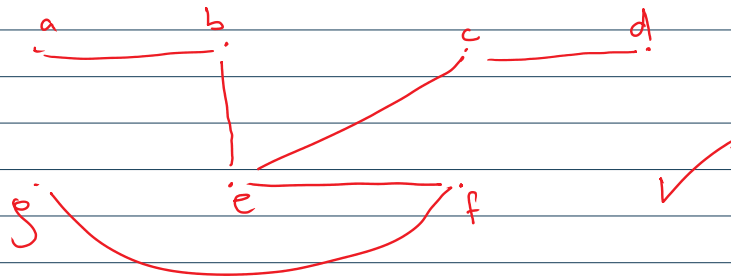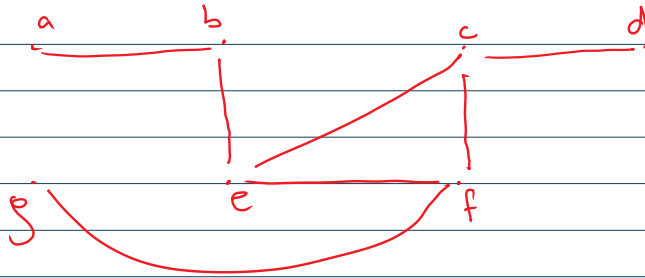lecture 24 :-

SPANNING TREE.

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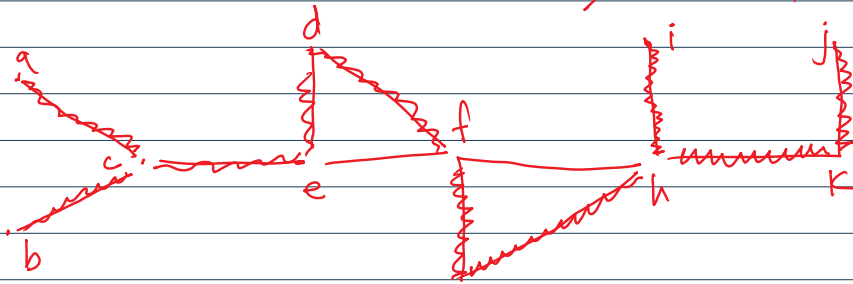3- Contains all Vertices of Original Graph.

Ex1 :-
663.

TECHNIQUES FOR CONSTRUCTING
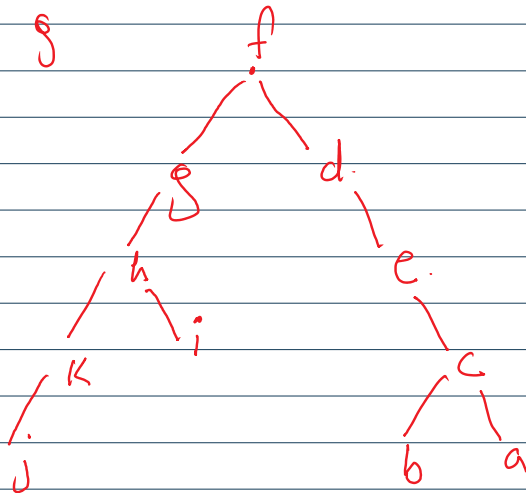
SPANNING TREES.
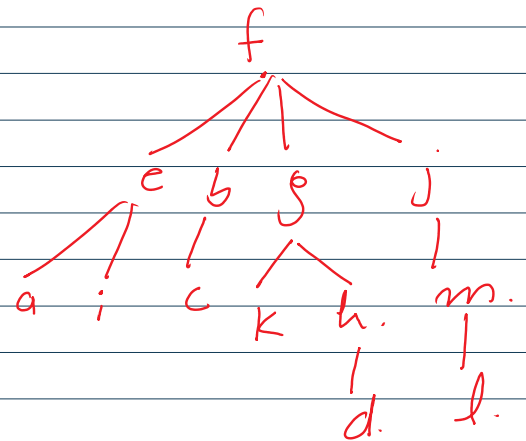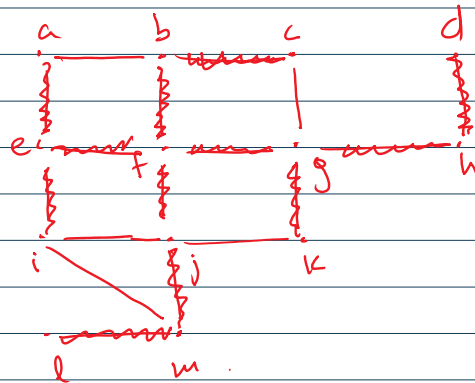
1) BREADTH FIRST.   2) DEPTH FIRST.
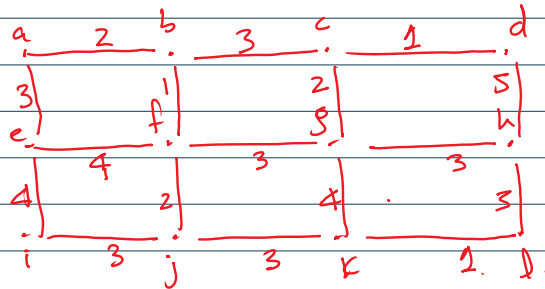
→ dead end.
→ Backtrack.

Ex5
667

Minimum   Spanning   Tree.

Prims.

Edge   Weight.

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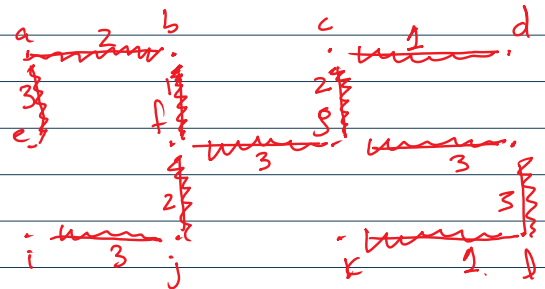
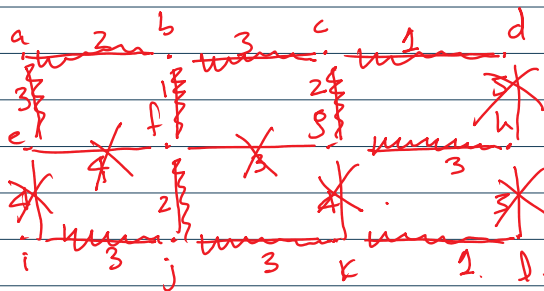|	Edge	Weight
1)	(b, f)	1
2)	(a, b)	2
3)	(f, j)	2
4)	(a, e)	3
5)	(i, j)	3
6)	(f, g)	3
7)	(c, g)	2
8)	(c, d)	1
9)	(g, h)	3
10)	(h, l)	3
11)	(k, l)	1

24.

KRUKSHAL.
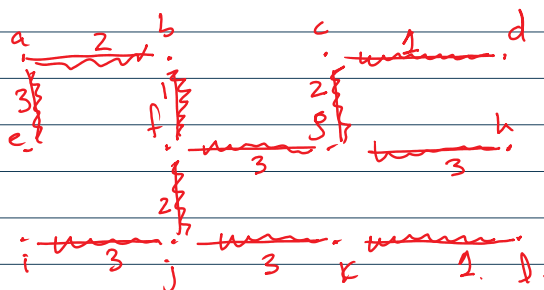
	Edge	weight
1)	(b, f)	1
2)	(c, d)	1
3)	(k, l)	1
4)	(a, b)	2
5)	(f, j)	2
6)	(c, g)	2
7)	(b, c)	3
8)	(j, k)	3
9)	(g, h)	3
10)	(i, j)	3
11)	(a, e)	3

24.

BACKTRACKING.

P670
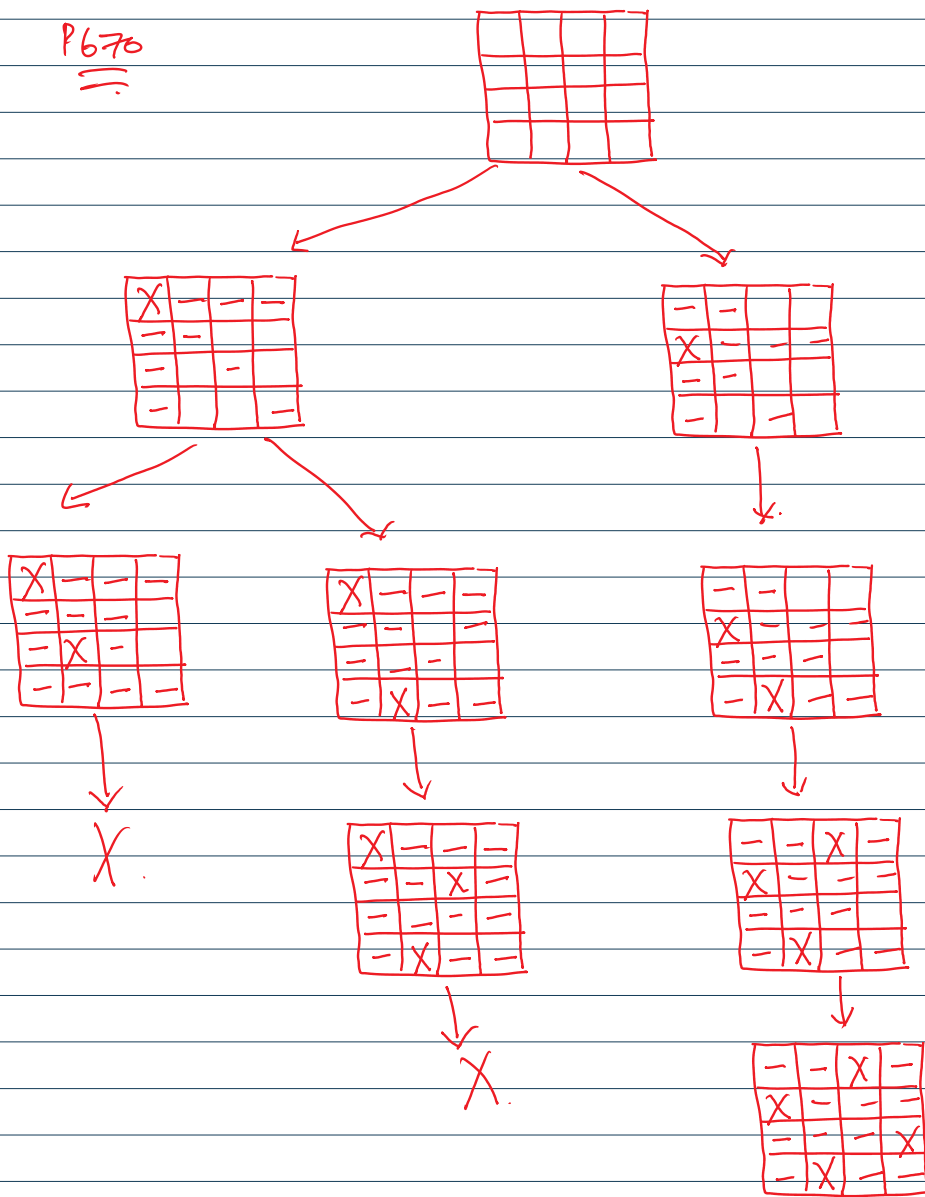
P. 672   Sums of Subset.
{31, 27, 15, 11, 7, 5}.   39.

↓   ↓   ↓   ↓

X.   X.   X. $\{27, 7, 5\}$.
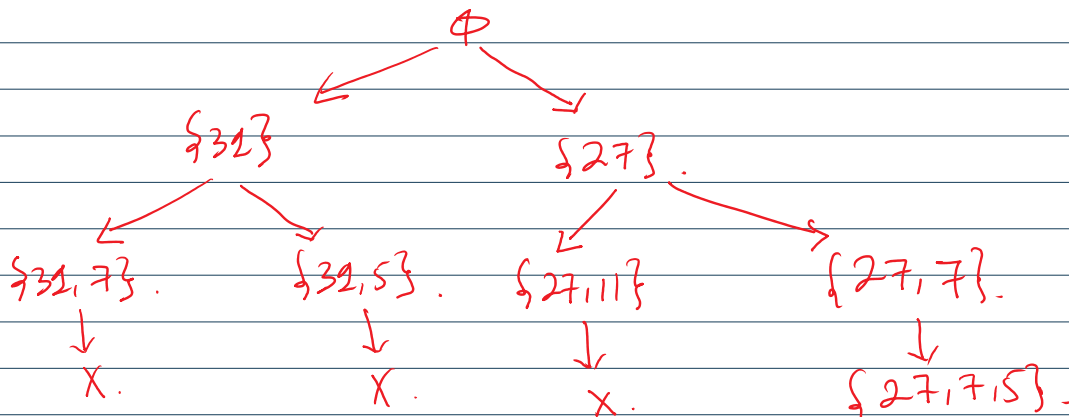
SPANNING FOREST PROBLEM.
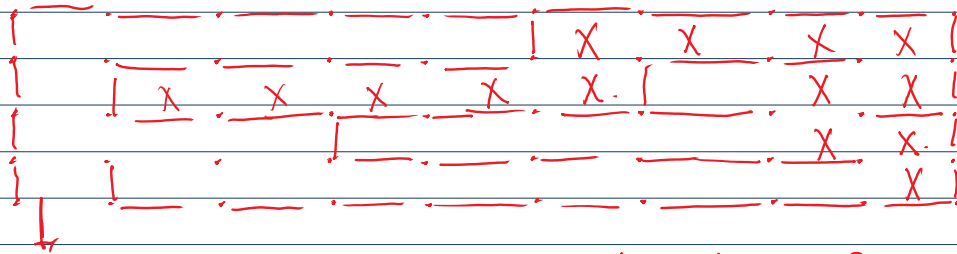
Exit.   (up, down, Right, left).
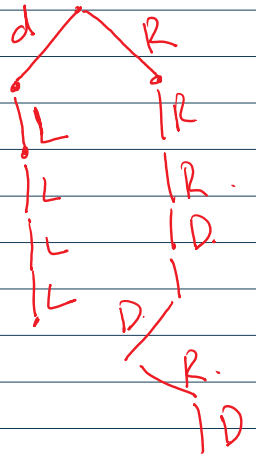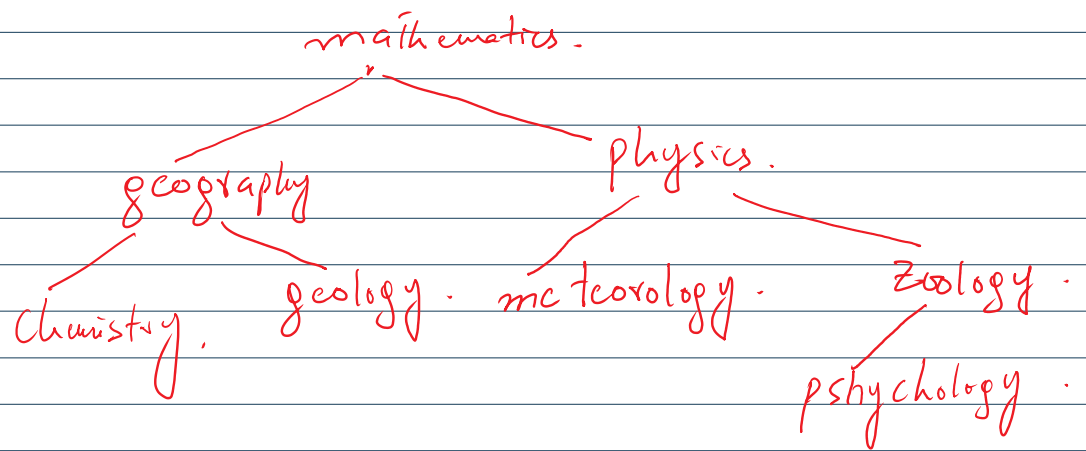

Binary Search tree Applications. $1+2+3+\cdots+8$

$$= 36.$$
$$= \boxed{21.}$$

$\{$ mathematics$^{\underset{1}{1}}$, Physics$^{\underset{2}{2}}$, geography$^{\underset{3^2}{3}}$, zoology$^{\underset{4^3}{4}}$,

meteorology$^{\underset{3}{5}}$, geology$^{\underset{3}{6}}$, Pshychology$^{\underset{7^4}{7}}$, Chemistry$^{\underset{3}{8}}$ $\}$.

mathematics.

mathematics.

geography

physics.

Chemistry.

geology.   meteorology.

zoology.

pshychology.

$\{200, 20, 50, 120, 180, 60, 13, 200, 500\}$.