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Tutorial - 12

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Ans: A greedy algorithm is an approch for solving a problem by selecting the best option available at the moment. It works in a top-down approch.

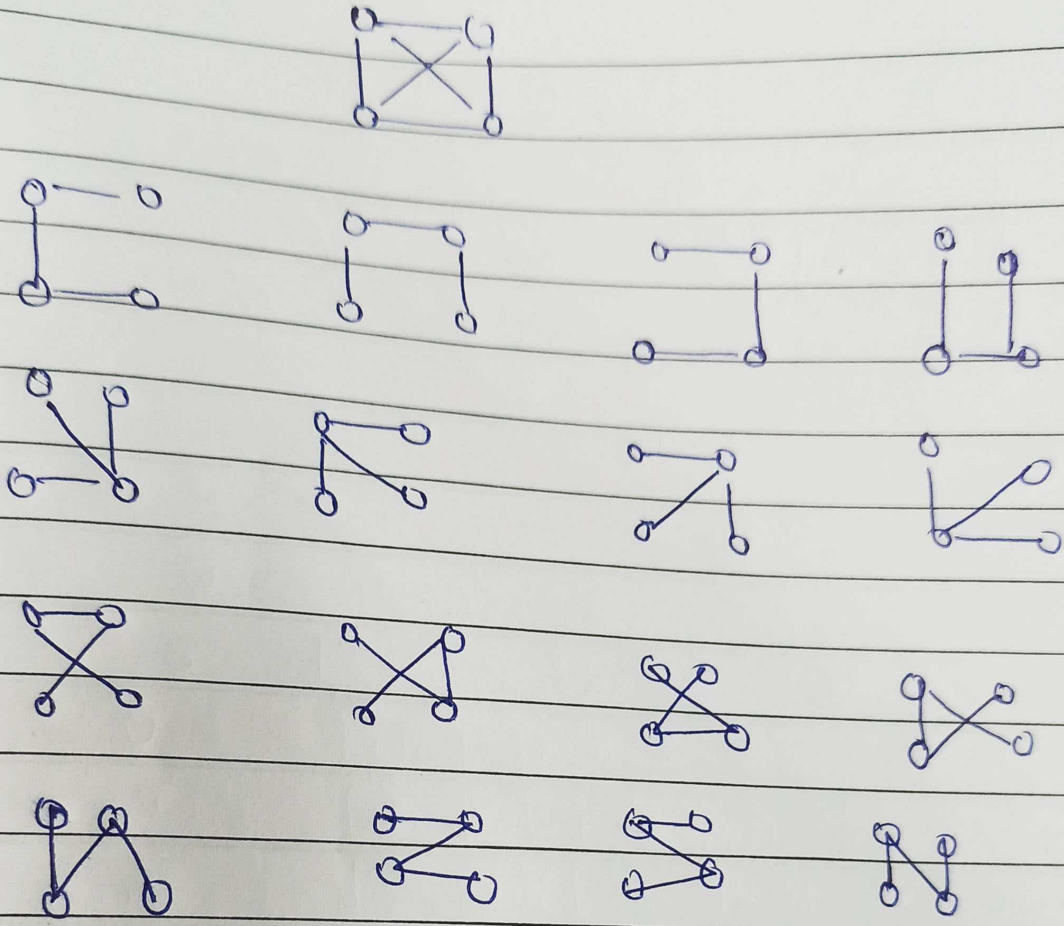
Ans:
```
Algorithm Greedy(a,n)
    Solution = 0
    for i = 0 to n do
        x = select a
        if feasible (solution, x)
            Solution = union (solution x)
    return solution
```

In greedy Strategy, local optimal solution approximate a globally optimal solution in a reasonable amount of time

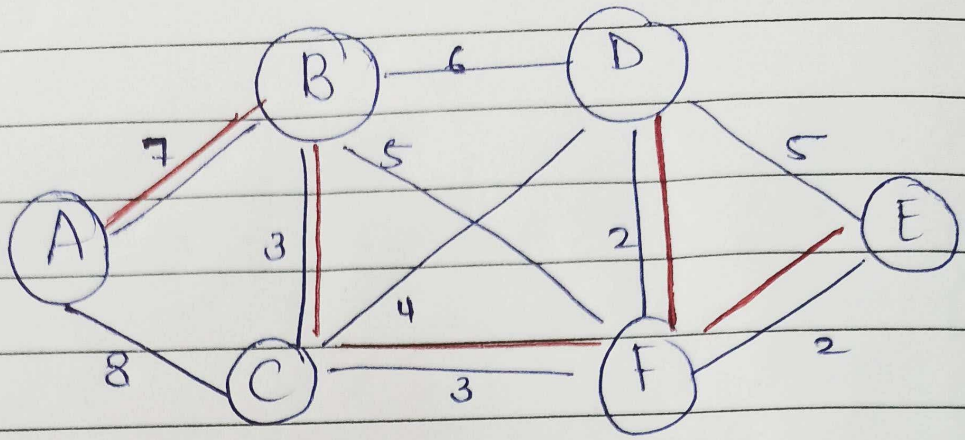
$86 - 20 = 16$ (20)
$16 - 10 = 6$ (20) (10)
$6 - 5 = 1$ (20) (10) (5)
$1 - 1 = 0$ (20) (10) (5) (1)

Ans: A spanning tree is a subgraph of an undirected graph. Connected graph, which includes all the vertices of graph with a min possible no. of edges.
The total number of spanning tree with n vertices $= n^{n-2}$

Q 4



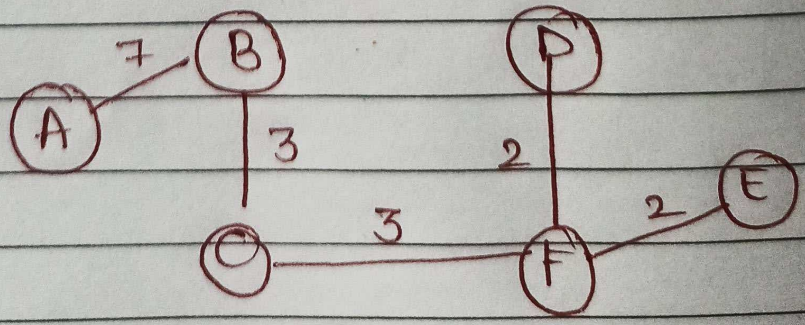
Prisms



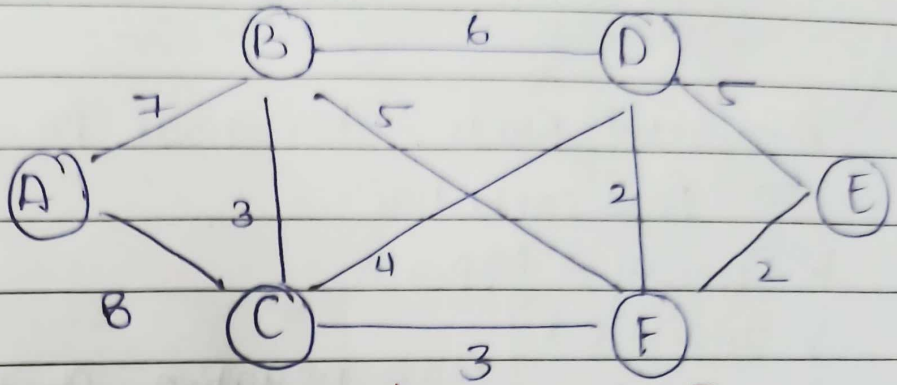
Source Node A

~~A~~	~~B~~	~~7~~ selected
A	C	8
~~B~~	~~C~~	~~3~~ selected
B	D	6
B	F	5
~~C~~	~~F~~	~~3~~ selected
C	D	4
~~F~~	~~D~~	~~2~~ selected
~~F~~	~~E~~	~~2~~ selected
D	E	5

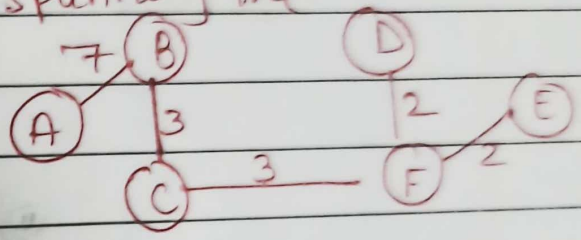
Min Spanning Tree by Prism Algo.



Kruskal Algorithms



Min spanning Tree



Sorted Edges

F - ~~D~~ = 2 ✓

~~F - E~~ = 2 ✓

~~B~~ C = 3 ✓

~~E~~ F = 3 ✓

~~C - D = 4~~ X cycle Form

~~B - F = 5~~ X cycle Form

~~D - E = 5~~ X cycle

~~B - D = 6~~ X cycle

A ~~B~~ = 7 ✓

~~A - E = 8~~ cycle] Edges (V-1) completed