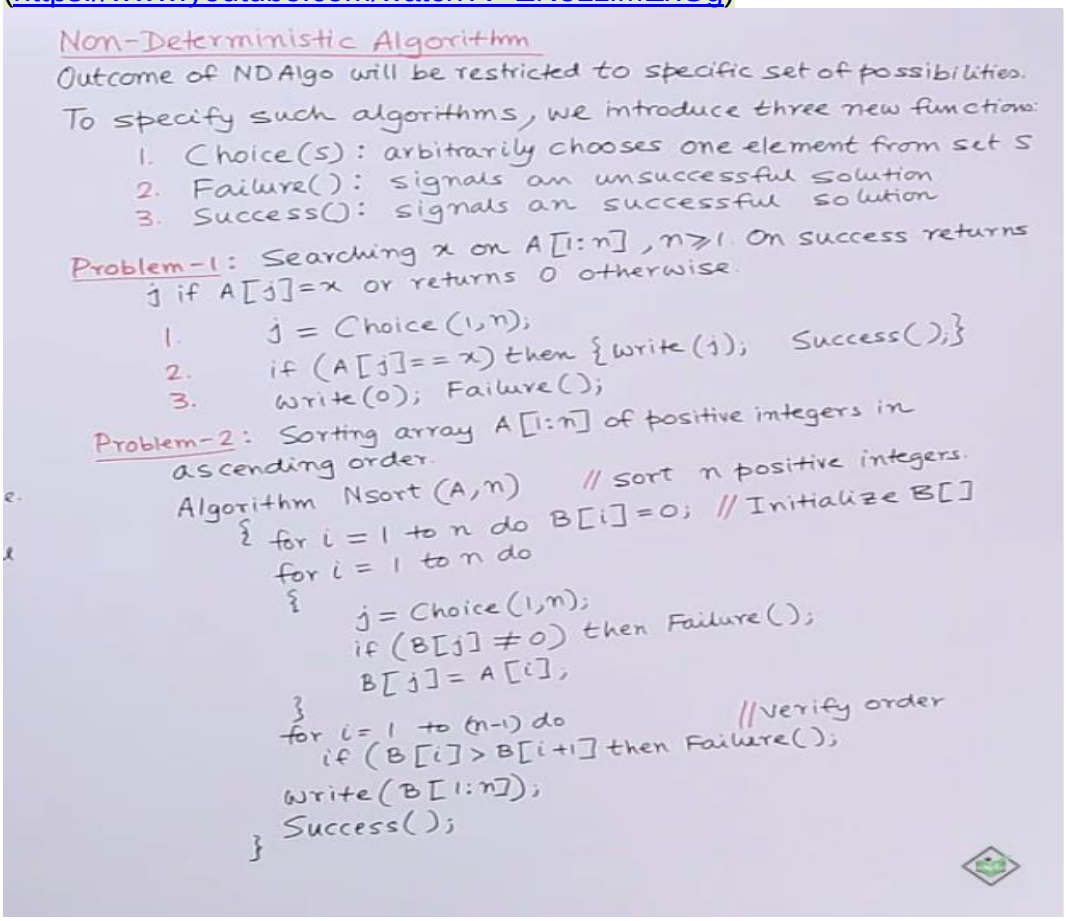
1)MCQS-

i) Which algorithm is used in finding all pairs shortest distance?
Answer- a) Dynamic Programming is correct answer.
(Floyd-Warshall algorithm)

ii) 0/1 knapsack is based on _____ method?
Answer- b) Branch & Bound(https://www.youtube.com/watch?v=yV1d-b_NeK8&t=135s)
c)Dynamic Programming (https://www.youtube.com/watch?v=nLmhmB6NzcM)
2 answers possible as knapsack 0/1 can be solved by both but write c Dynamic Programming as it is more efficient.

iii)A ___ is a round trip path along n edges of G that visits every vertex once and returns to its starting position.
Answer-
d)Hamiltonian Cycle
(used in Travelling salesman problem)

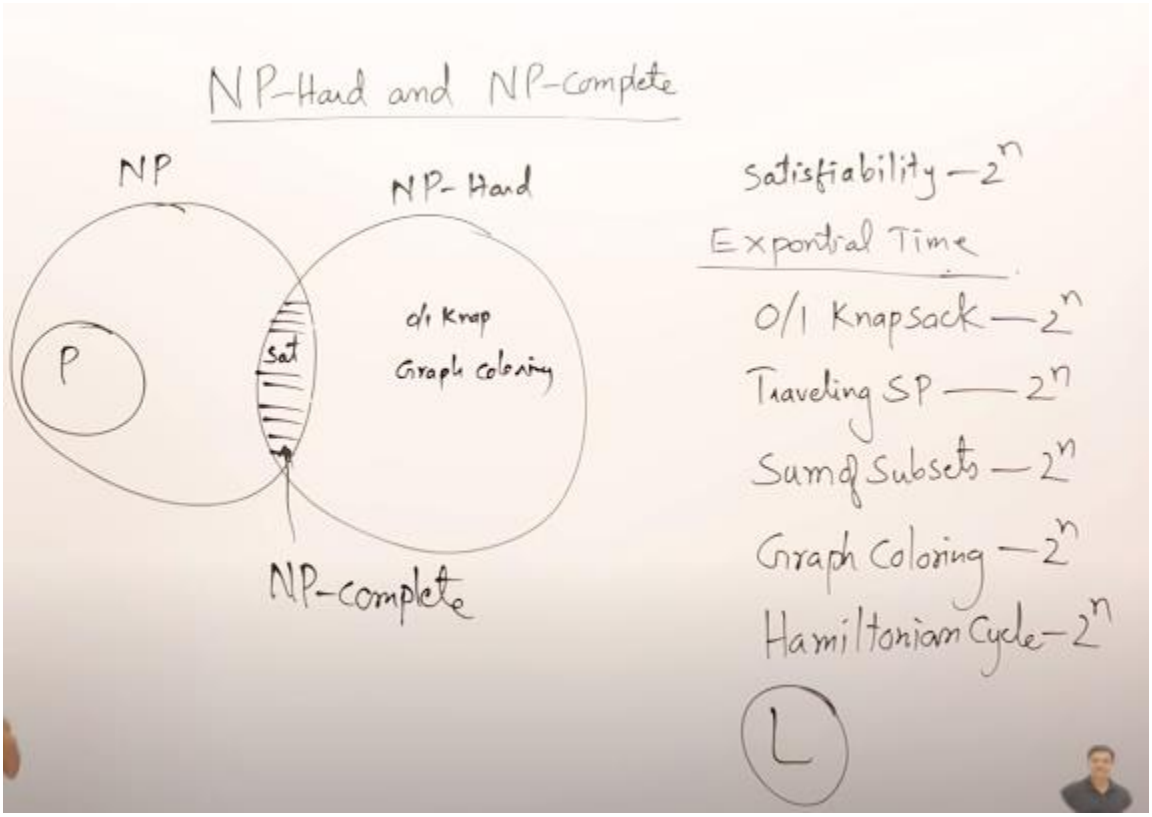
iv) The upper bound on the time complexity of the nondeterministic sorting algorithm is?
Answer-
O(n)
Non deterministic algorithmss always reduce time complexity.
(https://www.youtube.com/watch?v=ZNe1ziMExGg)



v)Choose the correct answer-

I.Theory of NP-Completeness provides a method for providing polynomial time for NP Problems.
II. All NP Problems are NP-Hard.

Answer- a)I is false and II is true
Explanation- https://youtu.be/e2cF8a5aAhE, https://www.geeksforgeeks.org/np-completeness-set-1/



Similar mcq(for practise)

The following are the statements regarding the NP problems. Chose the right option from the following options:

I. All NP-complete problems are not NP-hard.

II. Some NP-hard problems are not known to be NP-complete.

Answer-Only II is true.

Grp B Qs 2
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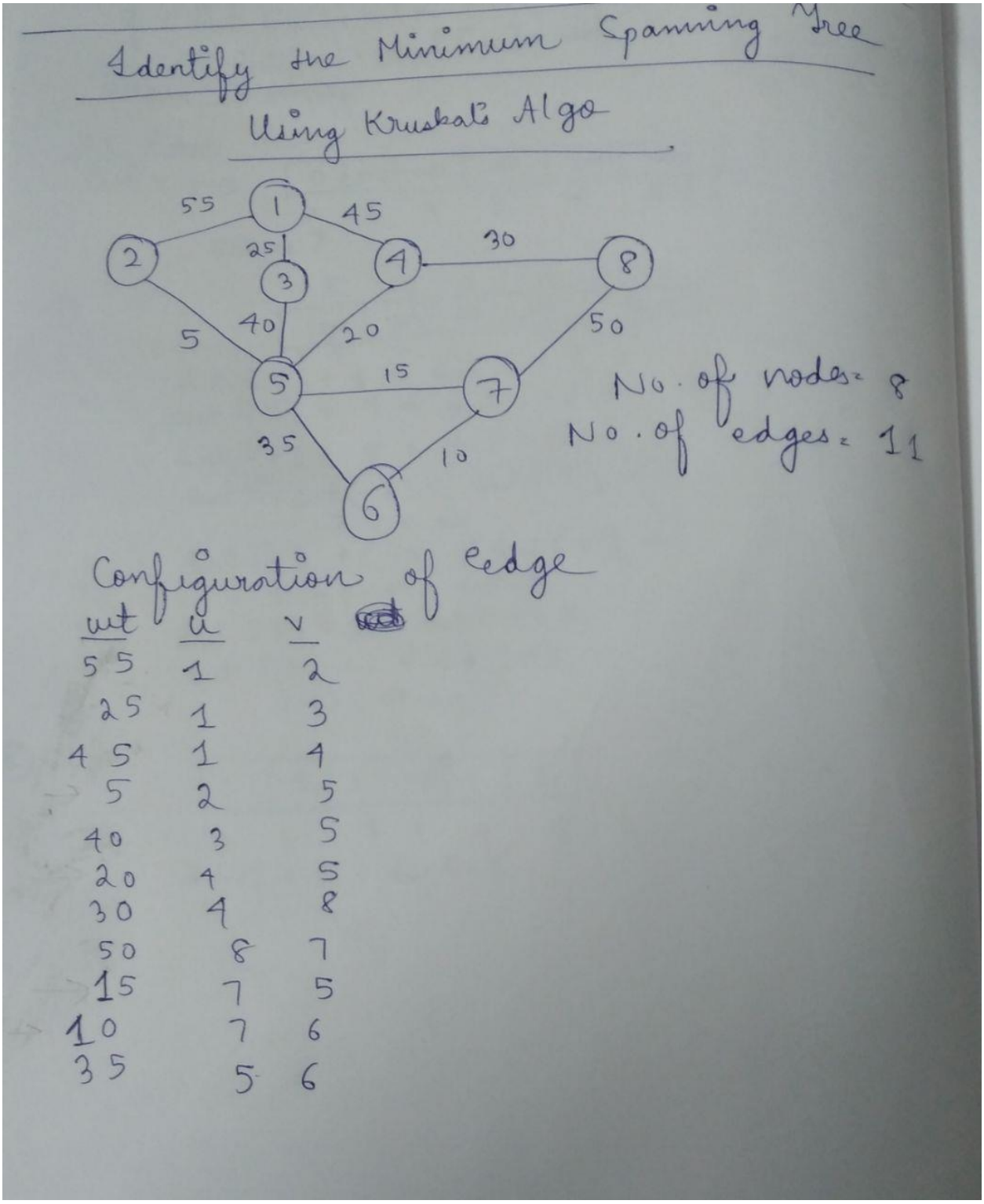

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