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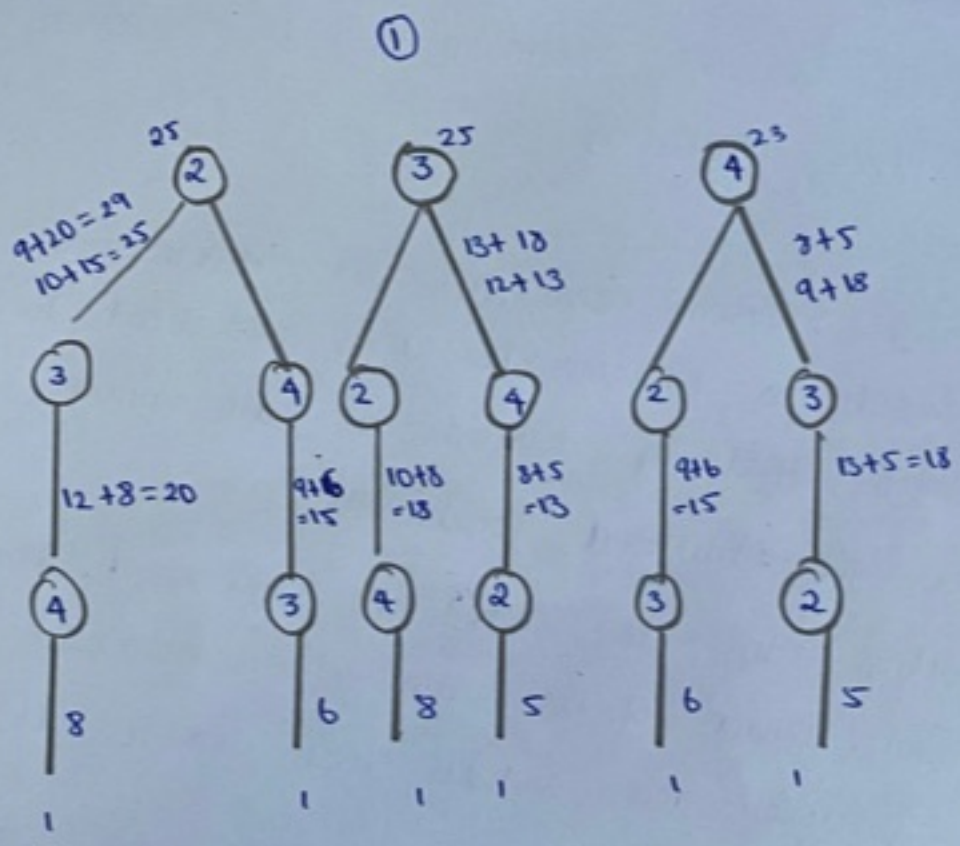
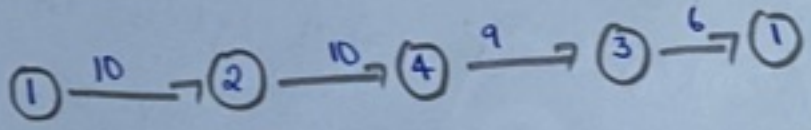
Title: 19CB301

3 C_1

(i)



(ii) The minimum cost path will be 35



we have to start from cost [1, [2,3,4], 1, we get the minimum value for d[1,2], when s=3 we select the path from 1 to 2 (cost is 10) and then we have to move backwards. when s=2, we get the minimum value for d[4,2]. Then we have to select the path from 2 to 4. Cost will be 10 then go backwards

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Travelling Salesman problem should be solved moving through all vertices and returning back to the starting vertices. So the minimum cost is 35, while compared to other traversing.

C_2

(i) The suitable problem close for the sudoku game is NP class. Sudoku is NP complete when generalized to a $n \times n$ grid, which effectively, requests a latin square that satisfies some additional constraints.

In addition to the standard requirement that each row and column of the Latin square contains each symbol precisely once, sudoku also demands block constraints.

If there are n symbols, the Latin square is of size $n \times n$. If n is a perfect square, the Latin square is divided into n regions of size $\sqrt{n} \times \sqrt{n}$, called blocks. Sudoku puzzles typically have fixed values in some of the cells, which dramatically limits the number of valid solutions. If the fixed values are such that only a unique remains, the sudoku puzzles is said to be well-formed

Date: 27.01.2022

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