

## **Problem List**

**Course:** CSE-222 (Algorithm Lab), Dept. of CSE, JKKNIU.

**Book Reference:** Fundamentals of Computer Algorithm, Sahni

1. Write a program to implement a binary search algorithm using divide and conquer method. (recursive) [Use at least 10 numbers as data set]
2. Write a program to find the maximum & minimum of a given array using divide & conquer method. [Use at least 10 numbers as data set]
3. Write a program to implement quick sort using divide & conquer method. [Use at least 10 numbers as data set]
4. Write a program to implement Merge sort using divide & conquer method. [Use at least 10 numbers as data set]
5. Write a program to solve Knapsack problem using greedy method. [Use at least 6 elements in the data set]
6. Write a program to solve Job sequence problem with deadline using greedy method. [Consider at least 5 Jobs]
7. Write a program to solve single source shortest path problem with deadline using greedy method. [Consider at least 5 vertices]
8. Write a program to solve all-pair shortest-path problem for a graph using dynamic programming. [Consider at least 3 vertices]
9. Write a program to solve 'Sum of subset' problem using backtracking strategy. [Use at least 8 numbers as data set] Pg#377
10. Write a program to solve n-queens problem using backtracking strategy. [Assume that  $n \leq 4$ ]
11. Write a program to solve Graph coloring problem using backtracking strategy. [Assume that number of nodes,  $n \leq 4$ ]
12. Find the minimum cost spanning tree using Prims or Kruskals algorithm. [Use at least 7 nodes to draw the graph]