Problems on Greedy and Dynamic Programming

1. Write programs to traverse a given graph using
    i) Depth First Search (DFS)
    ii) Breadth First Search (BFS)
2. Write programs for finding minimum spanning tree of a given graph using
    i) Kruskal's algorithm
    ii) Prim's algorithm
3. Write a program to implement Dijkstra's algorithm for finding shortest distances from a given vertex to all other vertices of a given graph.
4. Write a program to implement Floyed Warshall algorithm for finding all pair shortest distances.
5. Write a program to implement Fractional knapsack and 0/1 knapsack.
6. Write a program to find out the total number of ways to make change of given amount.
   For example, for N = 4 and S = {1,2,3}, there are four solutions: {1,1,1,1}, {1,1,2}, {2,2}, {1,3}. So output should be 4. [Infinite Supply of coins]
7. Write a program to find out the minimum no of coins to make change of given amount
   For example, for N = 10 and S = {1,5,6,9}, there are two solutions: {5,5},{1,9} So output should be 2. [Infinite Supply of coins]
8. Given a set of non-negative integers, and a value sum, Write a program to determine if there is a subset of the given set with sum equal to given sum. Input: set [] = {3, 34, 4, 12, 5, 2}, sum = 9 Output: True [There is a subset (4, 5) with sum 9]

Note:

- Programs must be written using Java Programming Language.
- Do proper commenting so that it becomes easy for us to read your code.