Backtracking
Assignment Questions

PW SKILLS

Q1. Given an integer array arr and an integer k, return true if it is possible to divide the vector into k non-empty subsets with equal sum.

Input: arr = [1,3,2,2] k = 2
Output: true
Explanation : 1 + 3 and 2+2 are two subsets with equal sum.

Q2. Given an integer array arr, print all the possible permutations of the given array.

Note : The array will only contain non repeating elements.
Input 1 : arr = [1, 2, 3]
Output1 : [[1,2,3] , [1,3,2] , [2,1,3] , [2,3,1] , [3,1,2] , [3,2,1]]

Q3. Given a collection of numbers, nums, that might contain duplicates, return all possible unique permutations in any order.

Example 1:
Input: nums = [1,1,2]
Output:
[[1,1,2], [1,2,1], [2,1,1]]

Example 2:
Input: nums = [1,2,3]
Output: [[1,2,3],[1,3,2],[2,1,3],[2,3,1],[3,1,2],[3,2,1]]

Q4. Check if the product of some subset of an array is equal to the target value.

Input : n = 5 , target = 16
Array = [2 3 2 5 4]
Here the target will be equal to 2x2x4 = 16
Output : YES

Q5. The n-queens puzzle is the problem of placing n queens on an n x n chessboard such that no two queens attack each other.Given an integer n, return the number of distinct solutions to the n-queens puzzle.

Input: n = 4
Output: 2
Explanation: There are two distinct solutions to the 4-queens puzzle as shown.
Input: n = 1
Output: 1