Sos

```
import java.util.Scanner;

public class sos {
   static int count = 0;

   static void findSubsets(int cs, int k, int r, int[] x, int[] w, int d) {
      int n = w.length;
      if (cs == d) {
         count++;
         System.out.print("Solution " + count + ": {");
         for (int i = 0; i < n; i++) {
            if (x[i] == 1) {
               System.out.print(w[i] + " ");
            }
         }
         System.out.println("}");
      } else if (k < n) {
         x[k] = 1;
         if (cs + w[k] <= d) {
            findSubsets(cs + w[k], k + 1, r - w[k], x, w, d);
         }
         x[k] = 0;
         if (cs + r - w[k] >= d) {
            findSubsets(cs, k + 1, r - w[k], x, w, d);
         }
      }
   }

   public static void main(String[] args) {
      Scanner sc = new Scanner(System.in);
```

```
        System.out.print("Enter the number of elements in the set: ");
        int n = sc.nextInt();
        int[] w = new int[n];
        int[] x = new int[n];
        int totalSum = 0;
        System.out.println("Enter the elements: ");
        for (int i = 0; i < n; i++) {
            w[i] = sc.nextInt();
            totalSum += w[i];
        }
        System.out.print("Enter the desired sum: ");
        int d = sc.nextInt();
        System.out.println("Total sum of elements: " + totalSum);
        findSubsets(0, 0, totalSum, x, w, d);
    }
}
```