**Subset Sums**

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Given an array of integers, print sums of all subsets in it. Output should be printed in increasing order of sums.

Input : arr[] = {2, 3}

Output: 0 2 3 5

Input : arr[] = {2, 4, 5}

Output : 0 2 4 5 6 7 9 11

**Input:**

The first line of input contains an integer T denoting the number of test cases. Then T test cases follow. The first line of each test case is N, N is the size of array. The second line of each test case contains N space separated values of the array arr[].  
  
**Output:**

Output for each test case should be space separated sums in increasing order.  
  
**Constraints:**

1 ≤ T ≤ 100  
1 ≤ N ≤ 10  
0 ≤ A[i] ≤ 100  
  
**Input:**  
2  
2  
1 2  
3  
5 2 1

**Output:**

0 1 2 3

0 1 2 3 5 6 7 8

\*\*For More Examples Use Expected Output\*\*

<http://practice.geeksforgeeks.org/problems/subset-sums/0>

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\*/

package javaapplication249;

import java.io.BufferedReader;

import java.io.IOException;

import java.io.InputStreamReader;

import java.util.ArrayList;

import java.util.Collections;

/\*\*

\*

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\*/

public class JavaApplication249 {

/\*\*

\* @param args the command line arguments

\*/

static ArrayList<Integer> printSubsets(int set[])

{

int n = set.length;

ArrayList<Integer> sumas = new ArrayList<Integer>();

// Run a loop for printing all 2^n

// subsets one by obe

for (int i = 0; i < (1<<n); i++)

{

//System.out.print("{ ");

// Print current subset

int sum =0;

for (int j = 0; j < n; j++) {

// (1<<j) is a number with jth bit 1

// so when we 'and' them with the

// subset number we get which numbers

// are present in the subset and which

// are not

if ((i & (1 << j)) > 0){

//System.out.print(set[j] + " ");

sum += set[j];

}

}

sumas.add(sum);

//System.out.println("}");

}

return sumas;

}

public static void main(String[] args) throws IOException {

// TODO code application logic here

//int arr[] = {2, 4, 5};

BufferedReader br = new BufferedReader(new InputStreamReader(System.in));

int t = Integer.parseInt(br.readLine());

while(t-- > 0) {

int n = Integer.parseInt(br.readLine());

int[] arr = new int[n];

String[] input = br.readLine().trim().split(" ");

for(int i =0; i<n; i++) {

arr[i] = Integer.parseInt(input[i]);

}

ArrayList<Integer> res = printSubsets(arr);

Collections.sort(res);

for(int elem: res) {

System.out.print(elem + " ");

}

System.out.println();

}

}

}