**Problem 1:**

有n支棒子。棒子 **i**的長度是。請由這些棒子中選出三支來做出周長最長的

三角形。請求出能夠做出的最大周長 。但是，無法做出三角形時請以0作為答案。Where:

3 ≦ n ≦100

1 ≦  ≦

Example1:

Input:

n = 5

a = {2,3,4,5,10}

Output:

12 (3,4,5)

Example2:

Input:

n = 4

a = {4,5,10,20}

Output:

0

**Problem 2:**

**Description**

An army of ants walk on a horizontal pole of length l cm, each with a constant speed of 1 cm/s. When a walking ant reaches an end of the pole, it immediatelly falls off it. When two ants meet they turn back and start walking in opposite directions. We know the original positions of ants on the pole, unfortunately, we do not know the directions in which the ants are walking. Your task is to compute the earliest and the latest possible times needed for all ants to fall off the pole.

**Input**

The first line of input contains one integer giving the number of cases that follow. The data for each case start with two integer numbers: the length of the pole (in cm) and n, the number of ants residing on the pole. These two numbers are followed by n integers giving the position of each ant on the pole as the distance measured from the left end of the pole, in no particular order. All input integers are not bigger than 1000000 and they are separated by whitespace.

**Output**

For each case of input, output two numbers separated by a single space. The first number is the earliest possible time when all ants fall off the pole (if the directions of their walks are chosen appropriately) and the second number is the latest possible such time.

**Sample Input**

2

10 3

2 6 7

214 7

11 12 7 13 176 23 191

**Sample Output**

4 8

38 207

n隻螞蟻在長度為L cm的竿子上以每秒 1cm的速度行走。螞蟻走到竿子兩端就會摔到竿子底下。另外竿子上很窄，無法讓兩隻螞蟻同時走過，所以當兩隻螞蟻相遇時就必須各自往相反方向走回去。至於每一隻螞蟻，只知道它們位於竿子左邊算起距離的地方，但是不清楚它們是朝那個方向前進。請分別求出所有螞蟻摔到竿子底下的最短時間及最長時間。Where:

1 ≦ L ≦ 

1 ≦ n ≦ 

0 ≦  ≦ L

Example1:

Input:

L = 10

N=3

X = {2,6,7}

Output:

Min = 4 {左、右、右}

Max = 8 {右、右、右}

**Problem 3:**

Given 整數、、…、。請判斷從其中選幾個數值的和是否可以剛好等於k。Where:

1 ≦ n ≦ 20

 ≦  ≦ 

 ≦ k ≦ 

Example1:

Input:

n = 4

a = {1,2,4,7}

k=13

Output:

Yes (13= 2+4+7)

Example2:

Input:

n = 4

a = {1,2,4,7}

k=15

Output:

No

Problem 4 Lake Counting:

**Lake Counting**

|  |  |  |
| --- | --- | --- |
| **Time Limit:** 1000MS |  | **Memory Limit:** 65536K |

**Description**

Due to recent rains, water has pooled in various places in Farmer John's field, which is represented by a rectangle of N x M (1 <= N <= 100; 1 <= M <= 100) squares. Each square contains either water ('W') or dry land ('.'). Farmer John would like to figure out how many ponds have formed in his field. A pond is a connected set of squares with water in them, where a square is considered adjacent to all eight of its neighbors.   
  
Given a diagram of Farmer John's field, determine how many ponds he has.

**Input**

\* Line 1: Two space-separated integers: N and M   
  
\* Lines 2..N+1: M characters per line representing one row of Farmer John's field. Each character is either 'W' or '.'. The characters do not have spaces between them.

**Output**

\* Line 1: The number of ponds in Farmer John's field.

**Sample Input**

10 12

W........WW.

.WWW.....WWW

....WW...WW.

.........WW.

.........W..

..W......W..

.W.W.....WW.

W.W.W.....W.

.W.W......W.

..W.......W.

**Sample Output**

3

**Hint**

OUTPUT DETAILS:   
  
There are three ponds: one in the upper left, one in the lower left,and one along the right side.

Problem 5:迷宮最短路徑

有一個大小為N × M 的迷宮。 迷宮是由通道及牆壁所組成。每回合都能往相鄰的上下左右四格的通路移動。請算出從起點移動到終點所需要的最少回合數(最短路徑)。但是前提是有路徑能夠由起點走到終點。Where:

N,M≦100

Example:

N=10, M=10