D	Coffee Lover	
	Input	d.in
	Output	Standard Output

I'm a coffee lover. Every day, I'll ask my mother for some money to buy coffee in different café'. There will be quite a few menus (and different price) in each coffee shop. Every times I'll want to buy coffee as much as I can. However, I also want to have the change as less as possible. Then, I make my own rule as every cup that I buy, I'll get one point, every dollar that I have left, I'll lose one point. In other words, I calculate the point = #cup – change. My mission is to have the best point every time I buy the coffee. How if there are many cases that has the same point? I'll choose the case with more cups. Oh! by the way, I cannot buy same menu in each coffee shop.

Let's have a look on examples.

The money I have	The coffee's price	Then, I will buy	The point I have
160	20, 20, 50, 30, 70	20, 20, 50 and 70	4 – 0 = 4
20	12, 5, 4	12 and 5	2 – 3 = -1
100	20, 30, 10, 35, 10	20, 30, 10 and 35	4 - 5 = -1

Input

The input consists of several test cases. The first line of each test case contains two integers' m and n; (1<= m <= 1000), (1 <= n <= 10). Where m is the money I have and n is the number of menu in the coffee shop. The next n lines of each test case are the coffee price. The input ends with two zeros (0 0).

Output

For each of the test cases, the first line of each output states the word “case_”, and the case number (without any spaces). The following line of each case, states number of cup, the money I have left and the best point, respectively. Each number separated by a space.

You must display the results in an exact form as shown in the sample output below.

Sample Input	Sample Output

160 5
20
20
50
30
70
20 3
12
5
4
100 5
20
30
10
35
10
0 0
	case_1
	4 0 4
	case_2
	2 3 -1
	case_3
	4 5 -1