Problem B: Problems With Power

New Island Power recently went through a tough week where it was unable to deliver electrical power to all of its customers. This was caused by a number of faults in their generation stations. Hoping to gain back some favour from their customers, you have been hired to analyze how to distribute the limited amount of power more efficiently.

The electrical power is distributed from all power generation plants via several substations; each of which demand a quantity of power and supply a number of customers. Your task is to activate substations to maximize the number of customers with power while keeping power requirements equal to or below the power generation capacity.

Input

The first line of the input file contains the number of test cases. Each test case consists of $n+2$ lines. The first line of each test case contains the total power capacity of the plant and the second contains the number of substations n. Each of the remaining n lines contains a whitespace separated list of the substation number, the amount of power consumed by the substation and the number of customers connected to the substation.

Output

For each test case, output a list of the substation numbers that should be activated to ensure that the maximum number of customers receive power. In addition, output the total number of customers receiving power and the total amount of power consumed by all activated substations. An empty line must be placed between each test case output.

Sample input (available as file "B.in"):

```
3
1250
5
1001 400 4000
1002 600 6000
1003 150 1500
1004 50 500
1005 100 1000
2300
8
1001 900 10000
1002 600 8000
1003 350 4500
1004 150 2500
1005 75 1800
1006 150 2500
1007 100 2000
1008 700 6000
```

```
1245
20
1001 1000 10000
1002 900 10000
1003 600 8000
1004 350 4500
1005 250 4400
1006 99 2500
1007 150 2500
1008 75 1800
1009 100 2000
1010 700 6000
1011 901 10000
1012 500 8500
1013 150 2500
1014 400 7402
1015 74 1900
1016 200 2500
1017 101 2100
1018 705 6100
1019 899 3000
1020 345 10
```

Sample output (available as file "B.out"):

```
Substations: 1001 1002 1003 1005
Total Customers: 12500
Total Power: 1250

Substations: 1001 1002 1003 1004 1006 1007
Total Customers: 29500
Total Power: 2250

Substations: 1005 1006 1007 1013 1014 1015 1017
Total Customers: 23302
Total Power: 1224
```