

Problem ZEROSPACE: Zero Space

You probably know Bruce. Bruce is a billionaire industrialist and a philanthropist. Furthermore, Bruce is an orphan since his parents have been murdered. As a reaction, he trained himself to the peak of physical and intellectual perfection. Now he has a second identity: Batman.

Although the prison cells in Gotham City are almost fully occupied, the crime rate still does not decrease. Hence the police ask Batman for help. Batman discovers that only if every single member of a criminal gang is under arrest, the number of crimes can be reduced. It is Batman's new task, therefore, either to chase after every member of a gang in order to get the whole gang arrested or to leave all members of that gang alone.

Criminal gangs often are specialized in different kinds of crimes, e.g., art theft, blackmailing, or bank robbery. The police classify these different types with a key number k . The higher k is, the more dangerous is the criminal gang.

There are only few free prison cells, so Batman has to fill up the prison with a set of those gangs that fit into prison and have (in sum) the highest key numbers.

Input

The first line contains the number of testcases n ($0 < n < 100$). Then there follow n testcase scenarios, each of them starts with a line that holds the number of free (single occupancy) prison cells c and the number of criminal gangs g ($0 < c, g < 1,000$). The next g lines of this testcase scenario describe the size s and the key number k of the gang ($0 < s, k < 1,000$). There is no blank line between two testcases.

Output

For each testcase print the highest sum of key numbers of gangs that fit into prison at the same time.

Sample Input 1

```
3
10 4
8 100
3 40
3 30
4 31
10 4
8 100
3 40
3 30
4 29
1 3
4 1000
5 1000
6 1000
```

Sample Output 1

```
101
100
0
```