BeetleBag

Time limit: *1000 ms*
Memory limit: *30 MB*

Beetleman joined the Strangers, a team of super heroes who protect cyber world.

In order to increase Beetleman's fighting power, Copperman allowed Beetleman to choose gadgets from his labs freely.

However, Beetleman has limited space in his hero bag.

Your task is to help Beetleman choose gadgets to increase his fighting power as much as possible.

Standard input

The first line of input has one integer t ($1 \leq t \leq 25$), the number of test cases that will follow.

For each t there will be a line that contains two integers, number c ($1 \leq c \leq 500$), the capacity of Beetleman's bag, and number n ($1 \leq n \leq 200$), the number of gadgets in Copperman labs.

Then for each above line, there will be n lines that will contain two integers, the number w ($1 \leq w \leq 100$), the gadget's weight and the number f ($1 \leq f \leq 1\,000$), the fighting power of the gadget.

Standard output

Output will have t lines containing the maximum fighting power from Copperman's gadgets that can fit into Beetleman's bag.

Constraints and notes

- $1 \leq t \leq 25$
- $1 \leq c \leq 500$
- $1 \leq n \leq 200$
- $1 \leq w_i \leq 100$ for $1 \leq i \leq n$
- $1 \leq f_i \leq 1\,000$ for $1 \leq i \leq n$

Input

```
2
6 2
1 17
6 15
5 5
1 1
2 2
3 3
4 4
5 5
```

Output

```
17
5
```

Explanation

Input explanation

```
1   2    <<<< two test cases
2   6 2  <<<< the first test
         case has 6 capacity
         and 2 gadgets to
         choose from.
3   1 17 <<<< weight 1,
         fighting power 17
4   6 15 <<<< weight 6,
         fighting power 15
5   5 5  <<<< the second
         test case has 5
         capacity and 5
         gadgets to choose
         from.
6   1 1  <<<< weight 1,
         fighting power 1
7   2 2  <<<< weight 2,
         fighting power 2
8   3 3  <<<< weight 3,
         fighting power 3
9   4 4  <<<< weight 4,
         fighting power 4
10  5 5  <<<< weight 5,
         fighting power 5
11
```

Output explanation

```
1   17 <<<< maximum fighting
       power from first test
       case
2   5  <<<< maximum fighting
       power from second
       test case
3
```