Meal deals P51461_en

Edgar has become fond of the "meal deals" of England. For 3.5 pounds he can eat one first, one second, one third, ..., and one n-th dish. Edgar wants to eat as many calories as possible, and he knows, for every dish of the deal, its type (between 1 and n) and its number of calories. Take into account that he can eat (at most) one dish of each type.

Input

Input consists of several cases, with only natural numbers. Every case begins with the number of types of dishes n and the number of different dishes d, followed by d pairs t_i c_i with the type and the number of calories of each dish. There is at least one dish for each type. Assume $1 \leq n \leq 10^4$, $n \leq d \leq 10^5$, $1 \leq t_i \leq n$, and $1 \leq c_i \leq 10^5$.

Output

For each meal deal, print the maximum number of calories that Edgar can eat.

Sample input 1

```
3 5
1 10  2 50  3 30  1 40  2 20
1 1
1 42
2 4
1 100000  1 100000  2 100000  1 100000
```

Sample output 1

```
120
42
200000
```

Problem information

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