

Donors

Input file: **standard input**
Output file: **standard output**
Time limit: 1 second
Memory limit: 256 megabytes

The Egyptian Red Crescent has a list with n donors and each donor is represented by two variables c is the donor's code and d is the amount of money this donor donates.

Egyptian Red Crescent has q queries.

Each query is represented by two variables l and r and you asked to get the value of $\sum_{i=l}^r f(i)$ where $f(x)$ is the amount of money the donor with code x donates.

Note Each donor can donate many times.

Input

The first line contains n and q ($1 \leq n, q \leq 10^5$) – the number of donors and queries.

Each line of n lines contains c and d – ($1 \leq c \leq 10^5$), ($1 \leq d \leq 10^9$) – donor's code and the amount of money he donates.

After that q lines each line contains l and r ($1 \leq l, r \leq 10^5$).

Output

For each query output the value described above.

Example

standard input	standard output
6 4	48
1 20	30
5 10	0
2 5	18
1 5	
6 4	
5 4	
1 6	
1 3	
3 4	
3 6	

Note

$$f(1) = 25$$

$$f(2) = 5$$

$$f(3) = 0$$

$$f(4) = 0$$

$$f(5) = 14$$

$$f(6) = 4$$