

Ada and Friends

Ada the Ladybug has many friends. They always celebrate something and Ada has to buy them gifts. It is pretty costly so she have decided to unfriend some of them. What is the maximum of money she can spare?

Input

The first line of each test-case will contain two integers $1 \leq Q \leq 10^5$, the number of celebrations (Q) and the maximum number of friends Ada wants to unfriend (K).

The next Q lines will contain s (the name of friend to whom Ada will buy gift) and $1 \leq E \leq 10^9+1$ (the expenses).

Names will contain at most 40 lowercase english letters.

Output

For each test-case, print the number of money Ada could spare.

Example Input

```
6 1
uvuvwevwevweonyetenyevevweugwemubwemossas 10
ryuk 11
uvuvwevwevweonyetenyevevweugwemubwemossas 5
fegla 3
tenshikanade 7
fegla 2
```

Example Output

```
15
```

Example Input

```
4 3
frodo 1
harrypotter 2
frodo 2
harrypotter 2
```

Example Output

```
7
```

Example Input

```
7 2
waynebot 7
lhc 4
```

petr 5
umnik 9
izrak 6
tourist 11
zlobobber 9

Example Output

20

Example Input

6 3
dufresne 5
gump 11
dufresne 3
mcmurphy 19
leon 10
dufresne 1

Example Output

40