Problem E. Corrupted Scoreboard Log

Input file: `standard input`
Output file: `standard output`

You are doing volunteer work for an ancient programming contest. Unfortunately, the contest directors are having difficulty revealing the final standings, as they recorded the final scoreboard on a stone tablet that has been worn away by dirt and sand! Fortunately, there is a rubbing of the stone tablet that survives. It states that there are n teams and m problems in the contest, and each line of text (belonging to the same team) on the scoreboard is preserved. However, all the spaces in the records are missing, and the teams are possibly shuffled during the rescue process — meaning that the teams may not even be listed according to rank.

RANK	TEAM	SCORE	A	B	C	D	E	F	G	H	I	J	K	L
1	Qfljoh Vojwfstjuz	9 935	158 3 tries	26 1 try	31 2 tries	23 1 try	4 tries	43 1 try		241 2 tries	55 1 try	99 1 try		179 1 try
2	Nptdpx Jotujuvuf pg Qiztjdt boe Ufdiopmphz	9 1212	148 2 tries	57 2 tries	39 2 tries	82 1 try	4 tries	43 1 try			52 1 try	249 2 tries	184 2 tries	218 3 tries
3	Utjohivb Vojwfstjuz	9 1218	108 2 tries	14 1 try	54 2 tries	92 2 tries	6 tries	30 2 tries		6 tries	50 2 tries	244 1 try	195 6 tries	171 4 tries
4	Uplzp Jotujuvuf pg Ufdiopmphz	9 1322	124 1 try	26 1 try	54 2 tries	133 1 try	200 2 tries	62 1 try	2 tries		81 1 try	240 1 try		282 5 tries

QfljohVojwfstjuz99351583tries261try312tries231try4tries431try2412tries551try991try1791try
NptdpxJotujuvufpgQiztjdtboeUfdiopmphz912121482tries572tries392tries821try4tries431try521try2492tries1842tries2183tries
UtjohivbVojwfstjuz912181082tries141try542tries922tries6tries302tries6tries502tries2441try1956tries1714tries
UplzpJotujuvufpgUfdiopmphz913221241try261try542tries1331try2002tries621try2tries811try2401try2825tries

An (electronic) scoreboard, along with a possible rubbing of a stone tablet, is shown above. However, the team names will not appear in the input.

More formally, each record consists of $m + 2$ parts. The first two parts represent the total number of problems solved by the team and their total penalty time. The next m parts detail the status of each problem. For each problem:

- If the team did not make any valid submissions for this problem, this part is empty.
- If the team submitted this problem and solved it on the x-th valid attempt in y minutes, it is displayed as "y x `try`". If $x \geq 2$, then `try` becomes `tries`. The penalty for this problem is $y+20(x-1)$.
- If the team made x valid submissions but did not solve it, it is displayed as "x `try`". If $x \geq 2$, then `try` becomes `tries`.

The total penalty time of a team is the sum of the penalty time of each problem they solve. Since this is not an abnormal contest, we can further make the following assumptions:

- The contest lasts for 300 minutes. Teams can solve problems from the 0-th minute to the 299-th minute, but not the 300-th minute.
- There are no more than 13 problems in the contest, and no more than 500 teams are participating.
- Each team will not make more than 100 submissions for any single problem.

You have been assigned the task to cover up the mistake by restoring each line of input text into any possible interpretation of the correct scoreboard by adding spaces. The teams are already waiting in the hall, and the contest directors are counting on you to resolve this crisis. Be quick!

Input

The first line contains two integers n ($1 \le n \le 500$) and m ($1 \le m \le 13$), the number of teams in the contest, and the number of problems in the contest.

The following n lines each contain the record of a team with all spaces removed. It is guaranteed that each record is valid, i.e., it satisfies the conditions described above and has a correct interpretation.

Output

For each team, output one line representing their record. First, output the number of problems they solved and their corresponding penalty time. For each problem:

- If there were no submissions, do not output any characters.
- If there were submissions, output "y x `try(tries)`" or "x `try(tries)`" accordingly.

Separate each part with **a single space**, and **do not print extra spaces**. Ensure that after removing spaces, your record exactly matches the input. If there are multiple solutions, print any.

Examples

standard input
4 12 99351583tries261try312tries231try4tries431try2412tries551try991try1791try 912121482tries572tries392tries821try4tries431try521try2492tries1842tries2183tries 912181082tries141try542tries922tries6tries302tries6tries502tries2441try1956tries1714tries 913221241try261try542tries1331try2002tries621try2tries811try2401try2825tries
standard output

9 935 158 3 tries 26 1 try 31 2 tries 23 1 try 4 tries 43 1 try 241 2 tries 55 1 try
  99 1 try 179 1 try
9 1212 148 2 tries 57 2 tries 39 2 tries 82 1 try 4 tries 43 1 try 52 1 try 249 2 tries
  184 2 tries 218 3 tries
9 1218 108 2 tries 14 1 try 54 2 tries 92 2 tries 6 tries 30 2 tries 6 tries 50 2 tries
  244 1 try 195 6 tries 171 4 tries
9 1322 124 1 try 26 1 try 54 2 tries 133 1 try 200 2 tries 62 1 try 2 tries 81 1 try
  240 1 try 282 5 tries

standard input
5 2 0022tries22tries 12222tries22tries 24422tries22tries 284222tries222tries 2844222tries222tries
standard output
0 0 22 tries 22 tries 1 22 2 2 tries 22 tries 2 44 2 2 tries 2 2 tries 2 84 22 2 tries 22 2 tries 2 844 2 22 tries 2 22 tries

Note

Lines starting with two spaces are considered part of the same line as the previous line. They are only used for presentation purposes in the sample and should not appear in the real output.