Problem ID: roster
Dispatch Roster

In another effort to enlist your services, the Gainesville Computer Company (GCC) decided that their truck dispatch roster needs to be computerized.

Every day N trucks are dispatched from the GCC warehouse (at different times), each headed to a different location; additionally, trucks may hold different amount of computers (some stores order different amounts!). More specifically, the i-th truck is dispatched at minute t_i with a load of k_i computers and takes exactly s_i minutes to reach its target location.

Now, the Gainesville Computer Company is interested in knowing how many computers are on the road at every point in time. Can you help them?

Input

The input will begin with a line containing a single positive integer, t, representing the number of test cases to process. Each test case will begin with two integers N and M ($1 \leq N \leq 100,000$, $1 \leq M \leq 100,000$); N is the number of trucks that are going to be dispatched and M is the amount of minutes the dispatch roster will keep track of. Following will be N lines, each corresponding to one truck that is going to be dispatched. The i-th line is of the form "t_i s_i k_i" ($s_i \geq 1$, $t_i \geq 1$, $s_i + t_i \leq M + 1$, and $k_i \leq 10$), which have the same meaning as defined above.

Output

For each test case print M space-separated integers on a single line, the i-th integer of which should be the number of computers that are on the road at minute i. The output for each test case should be on its own line.

Sample Input

```
2
4 5
1 1 3
2 1 5
3 1 6
1 5 10
1 10
4 2 10
```

Sample Output

```
13 15 16 10 10
0 0 0 10 10 0 0 0 0 0
```