## Problem 3: Rank and File

Consider the problem of determining the ranking of the entrants in a programming competition. The winner in such a competition is the entrant who solves the most programming problems within the allotted time. If two or more entrants solve the same number of problems within the allotted time, then the times at which the solutions were submitted are used to break the tie: for each entrant, the elapsed time between the start of the competition and the time of the submission of each correct solution is totaled. Whichever entrant has the least total time wins the competition. For example, assume that the competition started at 5:00pm. Entrant `a` submitted correct solutions for problem numbers 2 and 1 at 5:15pm and 6:15pm, respectively; Entrant `b` submitted correct solutions for problems number 1 and 2 at times 5:45pm and 6:00pm, respectively. Entrant `a` would win the competition because his or her total elapsed time (15 minutes + 75 minutes = 90 minutes) is less than that for entrant `b` (45 minutes + 60 minutes = 105 minutes) even though entrant `b` finished two problems first. Unlike ACM rules, there is no penalty for submitting an incorrect solution to a problem.

Write a program which, given the description of the results of a programming competition with $m$ submissions by $n$ entrants, outputs the total ranking of all entrants in the competition in correct order with the winner at the top. If two or more entrants have solved the same number of problems in the same total elapsed time, then they can be displayed in any order. For each entrant, display their corresponding letter designation, the total number of problems solved and their accumulated time. Your input will be an $(m+1)$-line textfile, in which the first line contains the value of $n$ and the time the competition started. Each of the subsequent $m$ lines represents a submission (correct or incorrect) by one of the entrants, where each submission is described by the time of the submission, the problem number the entrant is attempting to solve (the problems need not be solved in numerical order), the entrant designation (a lowercase letter between `a` and `z`) and the result code (lowercase Roman numerals) determined by the judges for the submission. Correct submissions are denoted by a result code of `i`. All times are implied to be in the afternoon (pm) on the same day and are in the form *hour*:*minutes* (*e.g.*, `5:35`). You may assume that all input files are formatted correctly and that if a contestant submits a correct solution for a problem number, they won't resubmit another solution for that same problem number.

**Sample input #1** (available as file "test3a.dat"):

```
2 5:00
5:15 2 a i
5:45 1 b i
6:00 2 b i
6:15 1 a i
```

**Sample output #1**:

```
Entrant Solved Time
   a      2     90m
   b      2    105m
```

**Sample input #2** (available as file "test3b.dat"):

```
2 5:30
5:45 2 a i
6:00 1 b i
6:30 2 b i
6:35 1 a i
```

**Sample output #2**:

```
Entrant Solved Time
   a      2     80m
   b      2     90m
```

**Sample input #3** (available as file "test3c.dat"):

```
3 6:32
6:50 1 a vi
7:18 1 c iv
7:24 1 a iii
7:26 2 b ii
7:46 2 a vi
7:49 1 a vi
8:05 2 c i
8:24 3 a v
8:42 3 c v
8:51 1 a iv
9:02 1 a i
9:12 3 a iv
9:31 2 a i
```

**Sample output #3**:

```
Entrant Solved Time
   a      2    329m
   c      1     93m
   b      0      0m
```