

## 4457 and the winner is!

During junior chess tournaments, a player may be paired in matches with another player of a different age. However, at the end of the tournament, players with the best score for each age (where age is calculated on the day of the tournament) are recognized separately. In the case of a tie, all players attaining the highest score are recognized. For the sake of clarity, a birthday is defined as the day that a person turns a year older. For example, a person born on the 2nd June 1996 is five (5) years old on the 1st June 2002, is six (6) years old on the 2nd June 2002 and will be considered in the age category of six (6) in a tournament held on the 2nd June 2002. Note that a person born on the 29th February becomes a year older on the 29th February in leap years and on the 1st March in non-leap years.

Your task is to write a program to identify the winners, and co-winners, amongst those participating in a junior chess tournament.

### Input

The input starts with an integer  $N$ ,  $1 \leq N \leq 200$ , on a separate line that represents the number of contests to be processed. The description of each contest starts with the contest date. The date is given as three entries on a separate line in the form: ' $\langle day \rangle \langle month \rangle \langle year \rangle$ ', where  $\langle day \rangle$  is an integer whose value is inclusive of one (1) and the number of days in the month,  $\langle month \rangle$  is a string with no white spaces and  $\langle year \rangle$  is an integer. Entries are separated by a blank space.

The following line consists of an integer  $M$ ,  $1 \leq M \leq 1000$ , which represents the number of contestants followed by  $M$  lines. Each of the  $M$  lines contains information about a single contestant. Contestant information is given as three entries on a separate line in the form:

$\langle LastName \rangle \langle FirstName \rangle : date\ of\ birth : score$

Names are separated by a single space and there are no white spaces in a name, date of birth uses the same format as the contest date and score is an integer inclusive of 200 and 2000. Entries are separated by a colon (:) with a white space on each side.

### Output

For each contest the output starts with a line that contains the contest number (starting with 1) followed by a colon (:), followed by a space and then followed by the contest date in the same format as that used in the input. The next line contains the profound statement 'All participants are winners with'.

Each of the following lines identifies the winner in an age category in the following form:

$\langle LastName \rangle \langle FirstName \rangle$  is best under  $\langle age \rangle$

There are no white spaces in a name and age is an integer that represents the age categories in years. In the case of a tie, a separate line is added in the form:

and also  $\langle LastName \rangle \langle FirstName \rangle$

The age categories are listed in increasing order.

## Sample Input

```
2
24 february 2017
10
dnuyixad uft : 28 october 2009 : 253
gzadkv eyht : 1 october 2004 : 1103
uxnlbc nu : 1 july 2007 : 700
ekrasl rtf : 18 september 2005 : 349
kjbu pgc : 18 november 2001 : 299
gtysh veuvzb : 1 april 2003 : 856
ldywn klyj : 6 november 1999 : 268
hmincdt mym : 6 july 2009 : 705
pcik nomm : 11 march 2004 : 755
dmjldfx rzlilm : 3 november 2000 : 901
12 june 2010
10
tydruqdh jfypo : 30 june 1996 : 1183
rhkefcr cz : 16 july 2001 : 981
bdpoq ltgrh : 26 october 1997 : 823
kcobbp rctwd : 23 december 1998 : 280
ssbdsoty auhk : 26 november 2001 : 511
vglu bn : 4 august 1997 : 823
cnenbiyu dia : 4 august 1997 : 500
hodjuadh pbl : 13 october 1995 : 835
rtzrtepz zlpk : 7 july 1995 : 493
qlyczjxf ppmvx : 15 april 1994 : 226
```

## Sample Output

```
Contest 1: 24 february 2017
All participants are winners with
hmincdt mym is best under 8
uxnlbc nu is best under 10
ekrasl rtf is best under 12
gzadkv eyht is best under 13
gtysh veuvzb is best under 14
kjbu pgc is best under 16
dmjldfx rzlilm is best under 17
ldywn klyj is best under 18
Contest 2: 12 june 2010
All participants are winners with
rhkefcr cz is best under 9
kcobbp rctwd is best under 12
bdpoq ltgrh is best under 13
and also vglu bn
tydruqdh jfypo is best under 14
hodjuadh pbl is best under 15
qlyczjxf ppmvx is best under 17
```