



Problem B

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: <day> <month> <year>, where <day> is an integer whose value is inclusive of one (1) and the number of days in the month, <month> is a string with no white spaces and <year> 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:

<LastName> <FirstName> : 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:

<LastName> < FirstName> is best under <age>.

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 <LastName> < FirstName>.

The age categories are listed in increasing order.

Sample Input	Output for the 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 tydrudqdh 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	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 tydrudqdh jfypo is best under 14 hodjuadh pbl is best under 15 qlyczjxf ppmvx is best under 17