Births of graduates by seasons

A university stores information of its graduates: the birth date (year, month, day), the start year of the university studies and the year of graduation.

Write a program that gives the count of students who were born in each season.

Input

The first line of the *standard input* contains the count of graduates ($1 \leq N \leq 100$). The next N lines contain the data about a graduate each, in the form of 5 integers separated by spaces. The first three numbers are the parts of birth date: year ($1950 \leq Y \leq 2000$), month ($1 \leq M \leq 12$) and day ($1 \leq D \leq 30$). The fourth number is the start year ($2000 \leq S < 2020$), and the last number is the year of the graduation ($S \leq G < 2020$).

Output

The first line of the *standard output* should contain the count of graduates born in spring, summer, autumn and winter (in this order).

Example

Input	Output
Input	*Output*
6	0 1 2 3
1980 1 1 2007 2012	
1970 6 2 2007 2012	
1999 12 1 2007 2012	
1982 10 1 2000 2005	
1982 9 9 2000 2012	
1982 1 1 2000 2005	