

## 518 Time

Let a time point be given as 6 integers  $y, m, d, h, min, s$  where  $1970 < y < 2030, 0 < m < 13, 0 < d < 32, 0 \leq h < 24, 0 \leq min < 60, 0 \leq s < 60$ . Write a program which computes how many periods of a given length fit between two given time points. A period is given by a pair consisting of a positive integer and a word expressing a time unit, i.e. **year** or **month** or **day** or **hour** or **minute** or **second**. Every 4th year is a leap year, except every 100th which is not except every 400 year which is. A length of the year varies according to leap years. The same is true for the month February. Time units always start as usual, e.g., a year starts at 1st January, a month starts at its 1st day, a day starts at 0 hours 0 minutes 0 seconds, etc. A period ends after its last second.

### Input

The input file consists of blocks of lines. Each block has three lines. The first line of a block contains a time point  $D_1$  and the second line a time point  $D_2$ .  $D_1$  always precedes  $D_2$ . All numbers in the lines are separated by one space. You can assume that the given descriptions of time points are correct. The third line contains a time period. There is one space between the number and the word in the period definition on this line. After each block, there is one empty line.

### Output

The output file contains the lines corresponding to the blocks in the input file. A line corresponding to a block contains one integer number expressing how many specified periods are contained between the given time points.

### Sample Input

```
1997 12 31 23 59 59
1998 1 1 0 0 0
1 second
```

```
2000 2 29 0 0 0
2000 2 29 23 59 59
1 day
```

```
2000 2 29 0 0 0
2000 3 1 0 0 0
24 hour
```

```
1996 12 31 20 30 0
1997 1 1 7 30 0
60 minute
```

```
1996 12 31 20 30 0
1997 1 1 7 30 0
1 hour
```

**Sample Output**

1  
0  
1  
11  
10