# Sleepless nights

Misof spent a lot of time preparing the problem set for this contest. No wonder he was going to bed late and usually got only a few hours of sleep.

Misof has a digital alarm clock with a 12-hour display. It shows times in the HH:MM format, with 1 ≤ HH ≤ 12 and 0 ≤ MM ≤ 59.

Each time Misof goes to sleep and each time he gets up he notes the time into his journal. Write him a program that will read these times and compute how long he slept.

Of course, without any restrictions there would be many possible outputs, differing by a multiple of 12 hours. Therefore assume that the length of Misof's sleep was the smallest possible *positive* number of minutes consistent with the two times.

**Input**

The first line of the input contains the time when Misof went to sleep. Assume that this time is strictly between midnight and noon.

The second line of the input contains the time when Misof had to wake up.

Both times are given in the format `HH:MM`.

**Output**

Output a single line with the text "`Misof slept for H hours and M minutes.`". Omit the plural if a number is 1, and omit the entire hours or minutes part (and also the word "`and`") if a number is 0.

**Examples**

| input | output |
|---|---|
| 03:47<br>09:48 | Misof slept for 6 hours and 1 minute. |

| input | output |
|---|---|
| 09:10<br>01:10 | Misof slept for 4 hours. |

| input | output |
|---|---|
| 12:01<br>12:48 | Misof slept for 47 minutes. |

| input | output |
|---|---|
| 12:01<br>03:48 | Misof slept for 3 hours and 47 minutes. |