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## Back To The Future

13 points

### Introduction

Hello time traveller!

You are in big trouble: the machine you've just travelled with is broken. Time is going back, and everything is going to disappear. There is only one way to fix it.

You had an analogical clock that your grandpa gifted you, and the clock hands are going backwards as well. To repair the space-time fissure, you have to determine the angle between the clock hands when the light flashes in the machine.

Hurry up! There is no time... or is there?

### Input

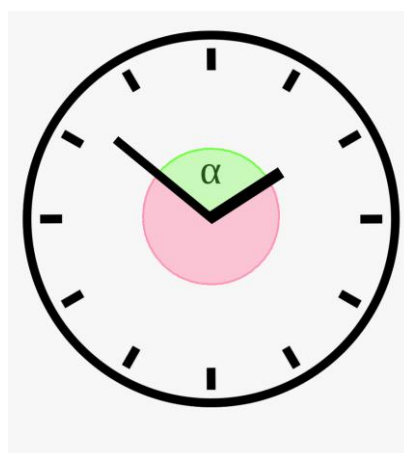
The times when the machine flashes a light are given in each line in the HH:MM format; hours only go from 1 to 12 because this is an analog clock.

Also remember, because this is an analog clock, the hour hand moves between the hour marks when the time is not a full hour (between 4:00 and 5:00 o'clock, for example).

A hash sign '#' indicates End Of File.

### Output

Each line is the acute (smaller) angle between the hands (colored green in the image below), as an absolute value, rounded to one decimal place. It does not matter which hand is on the right or left.



## Example

### Input

07:23

02:22

04:00

06:15

#

### Output

83.5

61.0

120.0

97.5