

Problem I - Phone Records

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Mobile phone penetration in South Africa, and, in fact, throughout Africa, is very high, and many users use the pre-paid option to manage how much they spend on phone calls each month. While cost-effective compared to a contract, the downside is that customers do not get a phone bill with the breakdown of the costs of their calls. This greatly hampers wise use of one's credit through understanding of one's phone habits. Yet, it is not of the large telecom companies interest to provide such information to the customers on pre-paid schemes, for they just want to make money. A Cape Town start-up—the Universally Compassionate Telco (UCT)—does want the best for its prepaid customers and wants to generate phone records for them. UCT charges for calls according to distance and time of day. The basis of charging is shown in the following table, where the charging step is related to the distance.

Charging step (distance)	Day rate 8am to 6pm	Evening rate 6pm to 10pm	Night rate 10pm to 8am
A	0.10	0.06	0.02
B	0.25	0.15	0.05
C	0.53	0.33	0.13
D	0.87	0.47	0.17
E	1.44	0.80	0.30

All charges are in Rand per minute of the call. Calls that go over a rate boundary are charged according to the time spent in each section. Thus, a call starting at 5:58 pm and terminating at 6:04 pm will be charged for 2 minutes at the day rate and for 4 minutes at the evening rate. Calls less than a minute are not recorded and no call may last more than 24 hours.

Write a program that reads call details and calculates the corresponding charges so that a phone record can be sent to the customer.

Input The input lines consist of the charging step (upper case letter 'A'..'E'), the number called (a string of 7 digits and a hyphen in the approved format) and the start and end times of the call, all separated by exactly one blank. Times are recorded as hours and minutes in the 24 hour clock, separated by one blank and with two digits for each number. Input will be terminated by a line consisting of a single #.

Output Output consists of the called number, the time in minutes the call spent in each of the charge categories, the charging step and the total cost.

(PTO for sample input and output)

Sample input

```
A 183-5724 17 58 18 04  
#
```

Sample output

```
183-5724 2 4 0 A 0.44
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