



Task 1. Tea Rooms

Available marks: 13

The people of Chaiville love their tea. Chaiville is surrounded by a large number of villages, connected in a ring. Each village has one tea room that serves only one type of tea: black, green or herbal.

The Chaivillians love visiting tea rooms. They all gather at a point between adjacent villages, half go left and half go right. Each applies the following rule independently:

- When a group reaches the first tea rooms they partake of the local brew, then continue onto the next village to try their wares.
- As soon as they reach a village serving either black or green tea, every subsequent village must serve either the same kind of tea, or herbal tea. If it's the wrong kind they go home.
- Tea rooms can accommodate only one group, so if every village is visited once both groups go home.
- At the end of the day both groups compare notes and tally up the total number of tea rooms they've drunk at.



Your Task

Write a program to determine where the groups should start in order to drink the most tea.

The input to the program is any number of lines, each of which is a separate problem, one per line. Each problem is just a string of letters representing the kind of tea served in each village, clockwise from north. Tea types are **B**, **G** and **H**.

For each problem, show the input with a gap where the groups should start, followed by the starting position and the total number of villages where tea was consumed. Position 0 means to the left of the first village, 1 is between the first and second village and so on. On the second line display a caret (^) where the gap occurs to emphasise the solution.

Sample Data

Input (task1-sample.dat):

```
BBBGGBBGBGBG
GHBGHBGBBGBHG
BBBBB
```

Output:

```
BBB GGBBGBBGBGBG: start 3 visits 5
  ^
GHBGHBGBBGBHG: start 10 visits 9
  ^
BBBBB: start 0 visits 5
  ^
```

The PCFinals pack contains this file and a more comprehensive one for evaluation.