
10. Problems For You And Me

Program Name: Problems.java

Input File: problems.dat

You are spending Martin Luther King day at home with a friend, and you really want to go for a hike to enjoy the unseasonably warm January afternoon. However, before you can take your stroll, you need to come up with a good programming contest problem for one of the UIL hands-on contests.

You know that the key to a good set of problems is an equal number of hard, moderate, and easy problems. For this contest, there are already 11 written, and you have to come up with the 12th. Knowing the difficulty rating of all the existing problems, determine the appropriate difficulty rating for the final problem (or note that, given the existing problems, there is no way to arrive at a “good set”).

Input

The first line will contain a single integer *n* that indicates the number of data sets in the input. Each data set will consist of a single line with 11 characters (no spaces) representing the difficulty levels of the 11 problems in the existing problem set you are working with:

H – hard
M – medium
E – easy

Output

For each data set in the input, output a single line. For data sets where it is possible to meet the criteria for a “good set”, display either “hard”, “medium”, or “easy”, indicating the difficulty of the problem you need to write. For other data sets, simply display “Oh well, that's what I get for procrastinating”.

Example Input File

```
3
EEEEMMMMHHH
EEMMHHEMHH
HHHHHHHHHHH
```

Example Output to Screen

```
hard
easy
Oh well, that's what I get for procrastinating
```