



# Happy Trails

 by [matfah](#)

Problem

Submissions

Discussions

Dory is working on her sea shell path back to her home. She's determined that she feels happier when there is a certain number of shells along the path. Specifically, she's found that if the binary representation of the number of shells has more 1's digits than 0's digits, then she is happy. On the other hand, if there are more 0's than 1's, then she is sad. She feels neutral if there are the same number of 1's and 0's digits. Dory would like to know if the path of shells she has just created will make her feel HAPPY, SAD, or NEUTRAL.

<https://drive.google.com/open?id=0BxxolsFkwnDqZmlIOXE1bINNZUE>

## Input Format

A single integer  $n$ , the number of the shells along the path

## Constraints

$0 \leq n \leq 1,000,000$

## Output Format

One of three Strings - HAPPY, SAD, or NEUTRAL

## Sample Input 0

5

## Sample Output 0

HAPPY

## Sample Input 1

112

## Sample Output 1

SAD

## Sample Input 2

2

Sample Output 2

NEUTRAL



Submissions: 55  
Max Score: 1

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Run Code

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