

A. King Moves

time limit per test: 1 second

memory limit per test: 256 megabytes

input: standard input

output: standard output

The only king stands on the standard chess board. You are given his position in format " cd ", where c is the column from 'a' to 'h' and d is the row from '1' to '8'. Find the number of moves permitted for the king.

Check the king's moves here [https://en.wikipedia.org/wiki/King_\(chess\)](https://en.wikipedia.org/wiki/King_(chess)).

King moves from the position e4

Input

The only line contains the king's position in the format " cd ", where 'c' is the column from 'a' to 'h' and 'd' is the row from '1' to '8'.

Output

Print the only integer x — the number of moves permitted for the king.

Example

input
e4
output
8