

Problem D

GPS

Johnny got his driving license and is enjoying driving his little car around Calgary. The only problem was that he became too dependent on his GPS. “Turn left at the next intersection, continue straight for two kilometers, turn left...”

He loved the thing...until it stopped working and he was forced to get out of his car and ask for directions. He ran into an old fellow that gave him instructions “continue to the next intersection, turn back South, go 2 blocks, turn West, then turn North after the coffee shop and your destination will be ahead after few blocks on the East side.”

Johnny had hard time translating this type of direction, so he wondered if there was a tool that will change it to “make U-turn at the next intersection, turn right after two blocks, then turn right after the coffee shop and your destination will be on the right.”

Can you help Johnny?



Input

The first line contains a single integer $T \leq 10$ giving the number of test cases. Each case consists of two (different) cardinal directions represented by their first letters.

Output

For each test case, you have to output what kind of turn Johnny needs to make if he is facing the first direction and wants to end up facing the second one. There are three possible answers: “left”, “right” and “U-turn”.

Sample Input	Sample Output
2 N S N E	U-turn right