

Problem A. Calandar

On a planet far away from Earth, one year is composed of 12 months, and each month always consists of 30 days.

Also on that planet, there are 5 days in a week, which are Monday, Tuesday, Wednesday, Thursday and Friday. That is to say, if today is Monday, then tomorrow will be Tuesday, the day after tomorrow will be Wednesday. After 3 days it will be Thursday, after 4 days it will be Friday, and after 5 days it will again be Monday.

Today is the d_1 -th day in the m_1 -th month of year y_1 . Given the day of today on that planet, what day will it be (or was it) on the d_2 -th day in the m_2 -th month of year y_2 on that planet?

Input

There are multiple test cases. The first line of the input contains an integer T (about 100), indicating the number of test cases. For each test case:

The first line contains three integers y_1 , m_1 , d_1 ($2000 \leq y_1 \leq 10^9$, $1 \leq m_1 \leq 12$, $1 \leq d_1 \leq 30$) and a string s , indicating the date and day of today on that planet. It's guaranteed that s is either "Monday", "Tuesday", "Wednesday", "Thursday" or "Friday".

The second line contains three integers y_2 , m_2 and d_2 ($2000 \leq y_2 \leq 10^9$, $1 \leq m_2 \leq 12$, $1 \leq d_2 \leq 30$), indicating the date whose day we want to know.

Output

For each test case output one line containing one string, indicating the day of the d_2 -th day in the m_2 -th month of year y_2 on that planet.

Example

standard input	standard output
4	Wednesday
2019 5 12 Monday	Friday
2019 5 14	Thursday
2019 5 12 Tuesday	Thursday
2019 12 30	
2019 5 12 Friday	
1000000000 1 1	
1000000000 1 1 Wednesday	
2019 5 12	