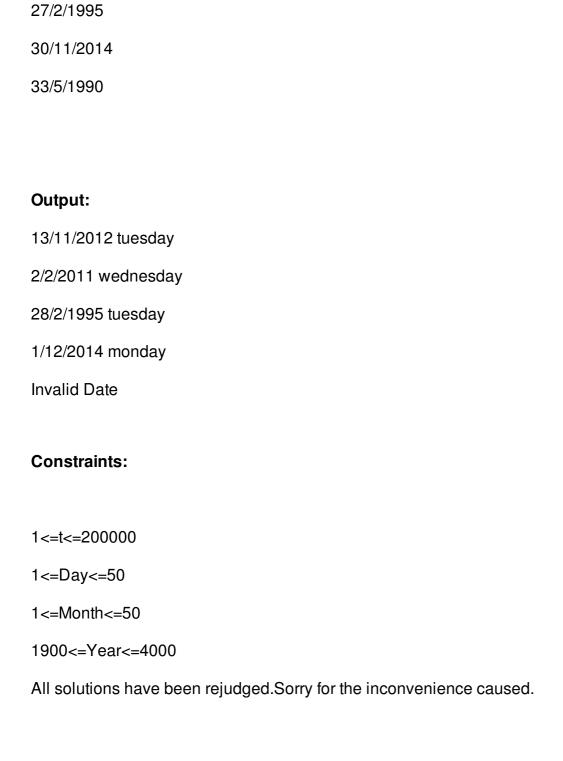# DAY AND DATE

Given a date. Print the next date and the corresponding day seperated by a space.

Input:

The first line of input contain **t** (number of test cases).

Next **t** lines contain dates in the following format : **Day/Month/Year**

If the date is a invalid date then print "**Invalid Date**" (without quotes).

Output:

Each line of output contains the next date and the corresponding day seperated by a space.

The output format is same as that of input format.

The day must be written in small letters as :

sunday

monday

tuesday

wednesday

thursday

friday

saturday

Example

Input:

5

12/11/2012

1/2/2011

27/2/1995

30/11/2014

33/5/1990

Output:

13/11/2012 tuesday

2/2/2011 wednesday

28/2/1995 tuesday

1/12/2014 monday

Invalid Date

Constraints:

1<=t<=200000

1<=Day<=50

1<=Month<=50

1900<=Year<=4000

All solutions have been rejudged.Sorry for the inconvenience caused.