Students of some virtual university are to be given gifts. The students arrive at the distribution center and form two queues. One for the males and the other for the females.

The students are gifted in a gift room. The gift room consists of a number of chairs arranged in a straight line, the first chair near the back door and the front chair near the stage. The first person entering the class occupies the chair near the back door, and so on, until the last person occupies the chair just in front of the stage. When the gifting starts, the person in front of the stage is gifted first and the person near the back door at the last.

The gifting room has a fixed capacity of 9 seats. It is preferred to enter 2 boys first followed by 1 girl, followed by 2 boys and then 1 girl, and so on unless one of the queues get empty in which case more boys or girls may be entered.

**Input Description** The first input is N, the number of test cases. Each test case starts with the integer P, the number of students. Then there are exactly P lines, each line consists of the roll number of the student followed by a space, followed by either M or F denoting female or male.

**Output description** For each test case exactly P lines, the sequence of roll numbers in which they are processed.

Sample Input [(Plaintext Link)](https://he-s3.s3.amazonaws.com/media/hackathon/das-lab-assignment-3/problems/stage-gift-simulation/sample-input-42e4b3d.txt?Signature=Ssf%2F0gIatFuOJ6%2BZCrDJg24a9CQ%3D&Expires=1423074414&AWSAccessKeyId=AKIAJLE6MUHDYS3HN6YQ)

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27

IEC2014138 M

IEC201450 M

IEC201420 F

IEC201460 M

IEC2014106 M

IEC201479 F

IEC201464 M

IEC2014107 M

IEC201482 M

IEC201417 M

IEC201492 F

IEC201458 M

IEC201484 F

IEC20144 M

IEC201425 M

IEC201472 M

IEC2014117 M

IEC201440 M

IEC2014145 F

IEC20142 F

IEC20140 M

IEC201471 M

IEC201433 M

IEC2014119 F

IEC201477 M

IEC201444 F

IEC201454 F

Sample Output [(Plaintext Link)](https://he-s3.s3.amazonaws.com/media/hackathon/das-lab-assignment-3/problems/stage-gift-simulation/sample-output-4486874.txt?Signature=jjvykrPiR2OCYheYAc8lNCJclT8%3D&Expires=1423074414&AWSAccessKeyId=AKIAJLE6MUHDYS3HN6YQ)

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