Question 1

**Problem Description:**

You might be surprised to know that 2013 is the first year since 1987 with distinct digits. The years 2014, 2015, 2016, 2017, 2018, 2019 each have distinct digits. 2012 does not have distinct digits, since the digit 2 is repeated. Given a year, what is the next year with distinct digits?

**Input Specification**

The input consists of one integer Y (0 ≤ Y ≤ 10000), representing the starting year.

**Output Specification**

The output will be the single integer D, which is the next year after Y with distinct digits.

**Sample Input1**:

1987

**Output for Sample Input1:**

2013

**Sample Input2**:

999

**Output for Sample Input**

1023

Question 2

**Problem Description:**

You have been asked by a parental unit to do your chores. Each chore takes a certain amount of time, but you may not have enough time to do all of your chores, since you can only complete one chore at a time. You can do the chores in any order that you wish.

What is the largest amount of chores you can complete in the given amount of time?

**Input Specification**

The first line of input consists of an integer T (0 ≤ T ≤ 100000), which is the total number of minutes you have available to complete your chores.

The second line of input consists of an integer C (0 ≤ C ≤ 100), which is the total number of chores that you may choose from.

The next C lines contain the (positive integer) number of minutes required to do each of these chores. You can assume that each chore will take at most 100000 minutes.

**Output Specification**

The output will be the maximum number of chores that can be completed in time T.

**Sample Input 1**

6

3

3

6

3

**Output for Sample Input 1**

2

**Sample Input 2**

6

5

5

4

3

2

1

**Output for Sample Input 2**

3

Question 3

**Problem Description:**

You want to determine the chances that your favourite team will be the champion of a small tournament. There are exactly four teams. At the end of the tournament, a total of six games will have been played with each team playing every other team exactly once. For each game, either one team wins (and the other loses), or the game ends in a tie. If the game does not end in a tie, the winning team is awarded three points and the losing team is awarded zero points. If the game ends in a tie, each team is awarded one point. Your favourite team will only be the champion if it ends the tournament with strictly more total points than every other team (i.e., a tie for first place is not good enough for your favourite team). The tournament is not over yet but you know the scores of every game that has already been played. You want to consider all possible ways points could be awarded in the remaining games that have not yet been played and determine in how many of these cases your favourite team will be the tournament champion.

**Input Specification**

The first line of input will contain an integer T which is your favourite team (1 ≤ T ≤ 4).

The second line will contain an integer G, the number of games already played (3 < G ≤ 5). The next G lines will give the results of games that have already been played. Each of these lines will consist of four integers A, B, SA, SB separated by single spaces where 1 ≤ A < B ≤ 4, and SA, SB ≥ 0 . This corresponds to a game between team A (which had score SA) and team B (which had score SB) where team A won if SA > SB, team B won if SA < SB and the game ended in a tie if SA = SB. The pairs A and B on the input lines are distinct, since no pair of teams plays twice.

**Output Specification**

The output is **Yes** if your favourite team will be champion 100%, otherwise **No**.

**Sample Input1**

3

3

1 3 7 5

3 4 0 8

2 4 2 2

**Output for Sample Input1**

No

**Sample Input2**

3

4

1 3 5 7

3 4 8 0

2 4 2 2

1 2 5 5

**Output for Sample Input1**

Yes