

Problem D: Lucky Tickets

Reyno's family has an unusual tradition: upon buying your bus ticket, you check if it's lucky (and if it is, you eat it, but that's beside the point). Each ticket has a serial number containing an even number of digits, and a ticket is considered lucky if the sum of the digits in the first half of the number equals the sum of digits of the second half. For example, "113311" and "113005" are both lucky, but "113331" is not; the next ticket after "113331" that is lucky is "113401".

Given the serial number of a ticket, find the serial number of the next lucky ticket.

Input:

The first line on input contains T ($1 \leq T \leq 100$), the number of test cases. T test cases follow. Each test case contains an integer N , ($1 \leq N \leq 10^{100}$), the serial number of a ticket. N will have an even number of digits and may be given with leading zeroes.

Output:

For each test case, your program should output one integer, the next lucky ticket.

Sample Input:

```
3
113005
113331
123456789123455789
```

Sample Output:

```
113014
113401
123456789123455799
```