



acm International Collegiate
Programming Contest



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Smooth Visualization

Input: Standard Input
Output: Standard Output



One possible method to visualize a number with many digits whose values are from 1 to 7, inclusive, is to visualize each digit by a vertical column of '+' on a background canvas of '*'. The digit seven (7) would be visualized by a vertical column of seven '+', the digit six (6) would be visualized by a vertical column of six '+' and so on. For example, the number "1425" will be visualized as

```
* * * +  
* + * +  
* + * +  
* + + +  
+ + + +
```

Such representation is seen as jagged, as the difference between one column of '+' and the next is greater than 1, and may be considered not aesthetically pleasing by some. You are asked to add the minimum number of columns to eliminate its jagged nature and construct the following smoother visualization

```
* * * * * * * +  
* * * + * * * + +  
* * + + + * + + +  
* + + + + + + + +  
+ + + + + + + + +
```

where the height of two adjacent columns of '+' differ by no more than one.

Input

The input starts with an integer N ($1 \leq N \leq 100$), on a line by itself, that indicates the number of inputs to be visualized. Each of the following N lines contains a single number which is described by K digits whose values are in the range of 1 to 7, inclusive. A number does not contain any blank spaces and the value of its size K is in the range of 1 to 100, inclusive.

Output

For each input, the output consists of a smoothed visualization as explained above and demonstrated in the samples below.

Sample Input	Output for the Sample Input
3 1425 114242 1726	*****+ ***+***++ *++++*+++ *+++++++ +++++++ *****+***+** ***++++*+++* *+++++++ +++++++ *****+***** *****+++*****+ *****++++*****++ ***+++++++*+*+++ *+++++++*++++ *+++++++ +++++++