Product of digits   P61061_en

Write a program that reads several numbers, and for each one prints the product of its digits, and the product of the digits of the latest product, etcetera, until the resulting product has just one digit.

Input

Input consists of several natural numbers.

Output

For every number, print the product of the digits of the number, the product of the digits of the previous product, etcetera, one per line, until the resulting product has just one digit. Print a line with 10 dashes after the output for every number.

Sample input 1

```
939393
3737
999999999
7
```

Sample output 1

```
The product of the digits of 939393 is 19683.
The product of the digits of 19683 is 1296.
The product of the digits of 1296 is 108.
The product of the digits of 108 is 0.
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The product of the digits of 3737 is 441.
The product of the digits of 441 is 16.
The product of the digits of 16 is 6.
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The product of the digits of 999999999 is 387420489.
The product of the digits of 387420489 is 0.
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The product of the digits of 7 is 7.
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```

Problem information

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