Crazy numbers **P37813_en**

Dotzè Concurs de Programació de la UPC - Final (2014-10-01)

Given three natural numbers b, d and n, let us say that a natural number x is crazy if x is a multiple of n, and x represented in base b

- has exactly d digits (maybe with a leading zero),
- and does not have two equal consecutive digits.

Given b, d and n, can you find all crazy numbers?

Input

Input consists of several cases, each one with b, d and n. You can assume $3 \leq b \leq 10$, $d \geq 1$, and $n < b^d \leq 10^{17}$.

Output

For every case, print in order and with exactly d digits all crazy numbers in base b, followed by a line with ten dashes. All given cases are such that there are between 1 and 100 crazy numbers.

Observation

The expected solution requires less than 0.1 seconds to solve Sample input 2.

Sample input 1

```
10 1 5
10 9 123456789
4 5 108
5 24 98765432109876
```

Sample output 1

```
0
5
----------
123456789
246913578
370370367
493827156
617283945
740740734
864197523
987654312
----------
01230
03120
20130
----------
032043431321202432312313
121312313043034230314202
142103021401412342123403
320434313212024323123130
430242010421032012421213
----------
```

Sample input 2

```
3 35 959849555
```

Sample output 2

```
01010120212021021202102120121212021
01010210202101210120212021012020212
01012102010202121012121210121202120
01020101012010120201210102120121012
01020102102102021202101012010102120
01020121021012102102120121010201012
01202012120201210210120120210202101
01202120210202102121012120210120102
01202120212101202020210120120201212
01212020210212010210201012021212020
02010210102102120121010201020101202
02010212020102120202120101021021202
02012020120121010102012012101010201
02020101020121201010120102121210120
02020201012121201021201021012120201
02021021201212010121012121010102010
02102020201020101012012010201021021
02120102012120101212021021212010120
02121020120101020212102121210101012
10101020212021012010210201010120201
10101202120210212021021201212120210
10102102021012101202120210120202120
10201010120101202012101021201210120
10201210210121021021201210102010120
12010102012021201202012121210102101
12010202120210121210202021201202021
12020121202012102101201202102021010
12021202102021021210121202101201020
12021202121012020202101201202012120
12101012101210210212012010201210202
12102101212121020202010120120120212
12121202020121010102101201201020212
20101010212101201202101021012010101
20102101021021201210102010201012020
20102120201021202021201010210212020
20120120102010102021020202010202102
20120120121210202020101202101201212
20120201201210101020120121010102010
20120210202102020201212020212101021
20121212102121201010201202102101212
20201012120120120210120201201012121
20202010121212010212010210121202010
20212012121201010101010120120212102
20212121201020201202020102020212121
21012010202101020201202010210212021
21020202010201010120120102010210210
21020210120102021202021201020101201
21021010212120120212120212101202021
21021201021020202020201201202120202
21201020202010210102102021202010212
21210201201010202121021212101010120
21210210101010101210102101210121012
21212021202012012012012020210202102
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Problem information

Author : Salvador Roura
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