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**P0014. Numerical valleys**

**P80868\_en**

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Your task is to write a program that, given two natural numbers  $n$  and  $r$ , uses  $n$  to print a valley with  $r$  rows as it is shown at the instances. Notice that, the last row has  $r$  numbers  $n$  separated by dashes, the central dot, and  $r$  numbers  $n$  separated by dashes, that each row has two numbers  $n$  less than the row immediatly below, and that the part of the middle has to be filled with as many dots as necessary.

To solve this problem, you must implement *recursively* the function

```
int number_of_digits (int n);
```

that returns the number of digits of  $n$ , under the precondition  $n \geq 0$ .

**Input**

The input consists of two natural numbers  $n$  and  $r$ , with  $r > 0$ .

**Output**

Your program must print a valley of  $r$  rows using the number  $n$  as can be seen in the instances.

**Observations**

- Using strings is not allowed. Obviously, you can not use vectors either.
- Remember to implement `number\_of\_digits (n)` recursively.

**Sample input 1**

```
10004
3
```

**Sample output 1**

```
10004.....10004
10004-10004.....10004-10004
10004-10004-10004.10004-10004-10004
```

**Sample input 2**

```
0
6
```

**Sample output 2**

```
0.....0
0-0.....0-0
0-0-0.....0-0-0
0-0-0-0.....0-0-0-0
0-0-0-0-0.....0-0-0-0-0
0-0-0-0-0-0.....0-0-0-0-0-0
```

**Sample input 3**

```
987654321
1
```

**Sample output 3**

```
987654321.987654321
```

## **Problem information**

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