

## 7627 Keeping your balance

A researcher at Impossible Bionic Machines research lab manages a number of particularly nasty underlings. They do not mind working long hours on any particular day (and will continue until the work is done). They do, however, revolt and start demolishing infrastructure should they find out that another underling has done even one task less than themselves. For reasons beyond understanding, the complexity of tasks does not seem to matter, only the number.

It frequently happens that one or more of these underlings are not available, and their work has to be re-assigned to alternative underlings. If this redistribution of work results in an uneven spread of tasks, revolt still happens. To avoid this, the researcher must ensure that the number of available tasks can be evenly distributed even if some underlings are unavailable. Tired of having his laboratory disassembled, he has handed you the problem of calculating the minimum number of tasks he needs to prepare.

You will be given the number  $N$  of underlings and the maximum number  $A$  that might be absent on any given day. You must find the smallest positive integer  $M$  which is an exact multiple of  $N - i$ , for every  $i$  between 0 and  $A$  inclusive.

### Input

Input consists of an arbitrary number of records (but no more than 20), where each line represents a record and contains two values,  $N$  (the number of underlings) and  $A$  (the number of underlings which can potentially be absent), with  $0 \leq A < N$ . It is guaranteed that the inputs will be such that  $M < 2^{63}$  (use the `long` type in both C/C++ and Java).

The end of input is indicated by a line containing only the value '-1'.

### Output

For each input record, output a line containing the minimum number of tasks for the researcher to prepare, as described above.

### Sample Input

```
6 3
4 3
4 2
-1
```

### Sample Output

```
60
12
12
```