Problem C. Construct The Array

Input file:	*standard input*
Output file:	*standard output*
Time limit:	7 seconds
Memory limit:	256 mebibytes

Teacher Mai finds that many problems about arithmetic function can be reduced to the following problem:

Maintain an array a with index from 1 to l. There are two kinds of operations:

1. Add v to a_x for every x that $gcd(x, n) = d$.
2. Query $\sum_{i=1}^{x} a_i$.

Input

There are multiple test cases, terminated by a line "`0 0`".

For each test case, the first line contains two integers l, Q ($1 \le l, Q \le 5 \cdot 10^4$), indicating the length of the array and the number of the operations.

In following Q lines, each line indicates an operation, and the format is "`1 n d v`" or "`2 x`" ($1 \le n, d, v \le 2 \cdot 10^5$, $1 \le x \le l$). Total size of the input file does not exceed 7 mebibytes.

Output

For each case, output in separate string the answer to each query.

Examples

standard input	standard output
6 4 1 4 1 2 2 5 1 3 3 3 2 3 0 0	6 7