**Problem 3. Arrays**

We are given **N** infinite non-decreasing sequences , defined in the following manner: . We are also given the sequence , which is the sorted concatenation of . Which is the number on the **q-**th position in ?

**Input**: On the first line of the input file **arrays.in** there is one integer **N** – the number of sequences. The next **N** lines consist of four number each, the of them contains the integers . Then follows **M** - the number of queries and the next **M** lines consist of one number **q** each**.**

**Output**: The output file **arrays.out** must contain **М** integers– the answers to the queries given in the input file, in the same order they are given in there. **All indexes in the sequences start from 1.**

*Note: when printing use printf with “%I64d” or cout.*

**Constraints:**

1 **N, M, qi** 300,000

21,000,000,000

**TIME LIMIT – 2 sec**

**Example:**

|  |  |
| --- | --- |
| **arrays.in** | **arrays.out** |
| 3  2 3 5 7  2 4 8 7  2 2 2 8  5  1  2  3  4  5 | 2  2  2  4  6 |