# **Dynamic Array**



- Create a list, seqList, of N empty sequences, where each sequence is indexed from 0 to N-1. The elements within each of the N sequences also use 0-indexing.
- Create an integer, *lastAnswer*, and initialize it to 0.
- The **2** types of queries that can be performed on your list of sequences (**seqList**) are described below:
  - 1. Query: 1 x y
    - 1. Find the sequence, seq, at index (  $(x \oplus lastAnswer) \% N$  ) in seqList.
    - 2. Append integer y to sequence seq.
  - 2. Query: 2 x y
    - 1. Find the sequence, seq, at index  $((x \oplus lastAnswer) \% N)$  in seqList.
    - 2. Find the value of element y % size in seq (where size is the size of seq) and assign it to lastAnswer.
    - 3. Print the new value of *lastAnswer* on a new line

#### **Task**

Given N, Q, and Q queries, execute each query.

**Note:**  $\oplus$  is the *bitwise XOR* operation, which corresponds to the  $\ ^{\circ}$  operator in most languages. Learn more about it on Wikipedia.

#### **Input Format**

The first line contains two space-separated integers, N (the number of sequences) and Q (the number of queries), respectively.

Each of the Q subsequent lines contains a query in the format defined above.

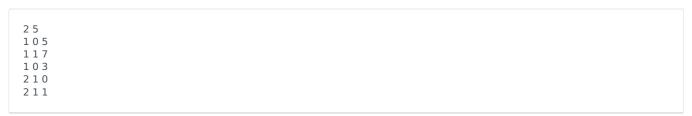
#### **Constraints**

- $1 \le N, Q \le 10^5$
- $0 \le x \le 10^9$
- $0 \le y \le 10^9$
- It is guaranteed that query type 2 will never query an empty sequence or index.

#### **Output Format**

For each type **2** query, print the updated value of *lastAnswer* on a new line.

## **Sample Input**



### **Sample Output**

# **Explanation**

```
Initial Values:
N = 2
lastAnswer = 0
S_0 = [\ ]
S_1 = []
Query 0: Append 5 to sequence ( (0 \oplus 0) \% 2 ) = 0.
lastAnswer = 0
S_0 = [5]
S_1 = []
Query 1: Append 7 to sequence ( (1 \oplus 0) \% 2 ) = 1.
S_0 = [5]
S_1 = [7]
Query 2: Append 3 to sequence ((0 \oplus 0) \% 2) = 0.
lastAnswer=0 \\
S_0 = [5, 3]
S_1 = [7]
Query 3: Assign the value at index 0 of sequence ((1 \oplus 0) \% 2) = 1 to lastAnswer, print lastAnswer
lastAnswer = 7
S_0 = [5, 3]
S_1 = [7]
  7
```

Query 4: Assign the value at index 1 of sequence  $((1 \oplus 7) \% 2) = 0$  to lastAnswer, print lastAnswer

lastAnswer=3 $S_0 = [5, 3]$  $S_1 = [7]$ 

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