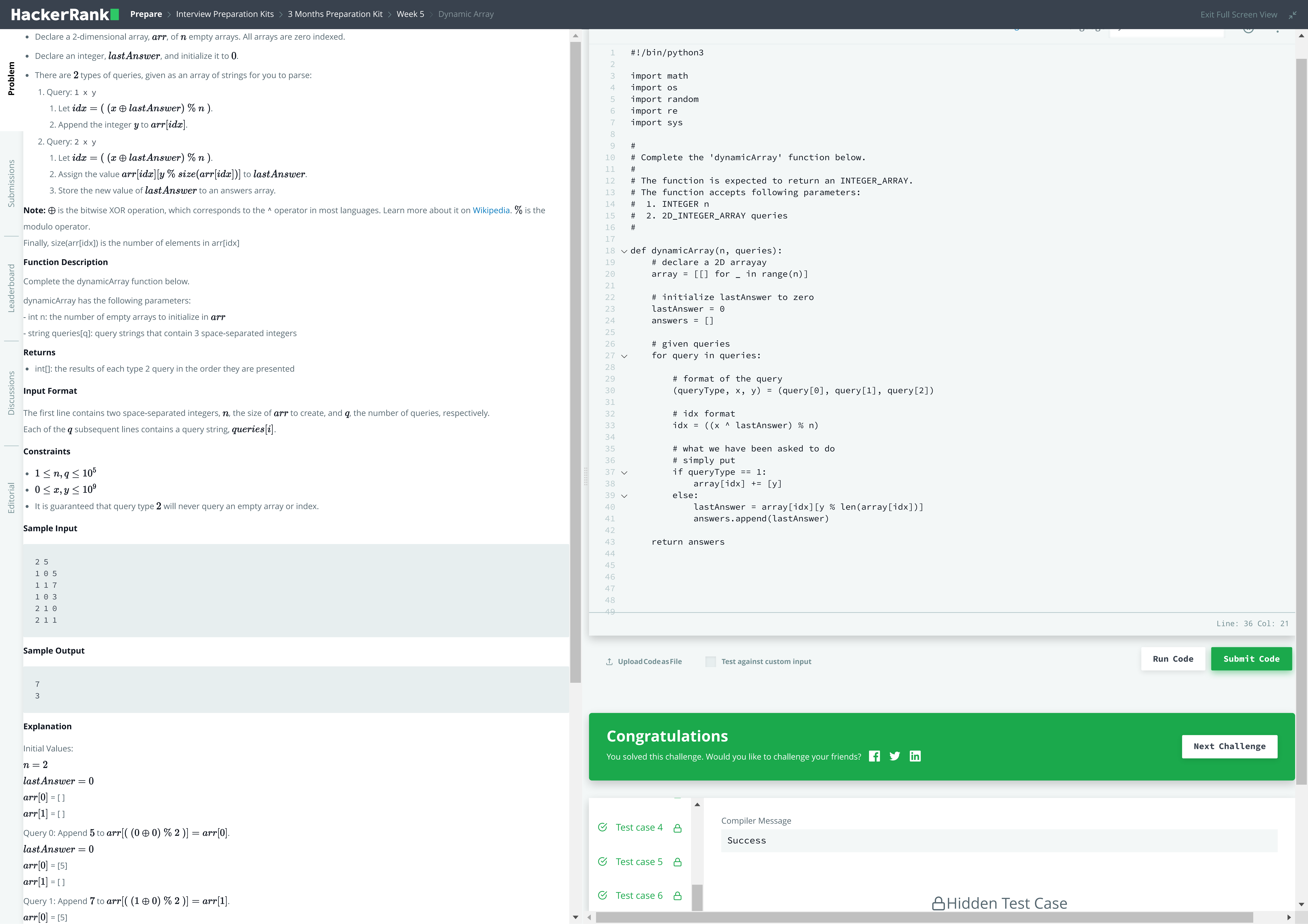

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- Declare a 2-dimensional array, arr, of n empty arrays. All arrays are zero indexed.
- Declare an integer, $lastAnswer$, and initialize it to 0.
- There are 2 types of queries, given as an array of strings for you to parse:
  1. Query: `1 x y`
     1. Let $idx = (\,(x \oplus lastAnswer)\ \%\ n\,)$.
     2. Append the integer y to $arr[idx]$.
  2. Query: `2 x y`
     1. Let $idx = (\,(x \oplus lastAnswer)\ \%\ n\,)$.
     2. Assign the value $arr[idx][y\ \%\ size(arr[idx])]$ to $lastAnswer$.
     3. Store the new value of $lastAnswer$ to an answers array.

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

Finally, size(arr[idx]) is the number of elements in arr[idx]

Function Description

Complete the dynamicArray function below.

dynamicArray has the following parameters:

- int n: the number of empty arrays to initialize in arr

- string queries[q]: query strings that contain 3 space-separated integers

Returns

- int[]: the results of each type 2 query in the order they are presented

Input Format

The first line contains two space-separated integers, n, the size of arr to create, and q, the number of queries, respectively.

Each of the q subsequent lines contains a query string, $queries[i]$.

Constraints

- $1 \leq n, q \leq 10^5$
- $0 \leq x, y \leq 10^9$
- It is guaranteed that query type 2 will never query an empty array or index.

Sample Input

```
2 5
1 0 5
1 1 7
1 0 3
2 1 0
2 1 1
```

Sample Output

```
7
3
```

Explanation

Initial Values:

$n = 2$

$lastAnswer = 0$

$arr[0]$ = [ ]

$arr[1]$ = [ ]

Query 0: Append 5 to $arr[(\,(0 \oplus 0)\ \%\ 2\,)] = arr[0]$.

$lastAnswer = 0$

$arr[0]$ = [5]

$arr[1]$ = [ ]

Query 1: Append 7 to $arr[(\,(1 \oplus 0)\ \%\ 2\,)] = arr[1]$.

$arr[0]$ = [5]

```python
#!/bin/python3

import math
import os
import random
import re
import sys

#
# Complete the 'dynamicArray' function below.
#
# The function is expected to return an INTEGER_ARRAY.
# The function accepts following parameters:
#  1. INTEGER n
#  2. 2D_INTEGER_ARRAY queries
#

def dynamicArray(n, queries):
    # declare a 2D arrayay
    array = [[] for _ in range(n)]

    # initialize lastAnswer to zero
    lastAnswer = 0
    answers = []

    # given queries
    for query in queries:

        # format of the query
        (queryType, x, y) = (query[0], query[1], query[2])

        # idx format
        idx = ((x ^ lastAnswer) % n)

        # what we have been asked to do
        # simply put
        if queryType == 1:
            array[idx] += [y]
        else:
            lastAnswer = array[idx][y % len(array[idx])]
            answers.append(lastAnswer)

    return answers
```

Congratulations

You solved this challenge. Would you like to challenge your friends?

Compiler Message

```
Success
```