

# Enjoy Sum with Operations

You are given N numbers of the array ( $N \leq 100000$ ), all less than  $10^8$  and greater than 0.

Now, you are given 2 queries:

- "1 x i" : Change the i-th number to x. ( $0 \leq x \leq 10^8$ )
- "2 Op i1 i2": Compute the sum of all two elements taken at a time within index i1 to i2 (both inclusive) under the operation Op. Op could be XOR, OR or AND.

For example, let  $N=4$ , Query=3 and "10 20 30 40" be the Initial array.

Query:

```
2 OR 1 3
1 0 1
2 OR 1 3
```

Answer:

```
2 OR 1 3--> (10 OR 20) + (20 OR 30) + (10 OR 30)
1 0 1 --> Now array becomes 0 20 30 40
2 OR 1 3--> (0 OR 20) + (20 OR 30) + (0 OR 30)
```

## Example

**Input:**

```
4 3
10 20 30 40
2 OR 1 3
1 0 1
2 OR 1 3
```

**Output**

```
90
80
```

**NOTE:** If i1 is equal to i2, always output 0.

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