SIMPLE

Maximum time of execution: 1 second/test.
Maximum available memory: 256 MB

You are given a sequence of **N** numbers and **Q** queries:
- **0 a b val** : the number **val** will be added to all of the numbers from the interval [**a**,**b**]
- **1 a b** : you need to print the minimum even number and the maximum odd number form the interval [**a**,**b**]; if one of these numbers does not exist, **-1** will be printed in its place

TASK
Answer all of the type **1** queries.

INPUT FORMAT
The first line contains one integer: **N**. The second line contains **N** integers, representing the numbers from the sequence. The third line contains one integer: **Q**, and the following **Q** lines contain **Q** queries, as described in the statement.

OUTPUT FORMAT
The output contains the answers to all of the type **1** queries, one per line.

CONSTRAINTS

- The numbers from the sequence are between 1 and 2.000.000.000.
- The numbers *"val"* from type **0** queries are between 1 and 2.000.000.000.
- **WARNING!! If one of the answers to a type 1 query cannot be calculated, -1 will be printed in its place!!**

Subtask	Score	Restrictions
1	30 points	**N, Q** <= 5000
2	another 30 points	**N, Q** <= 200.000 and there are no type **0** queries
3	another 40 points	**N, Q** <= 200.000

EXEMPLE

Input (from the console)	Output (to the console)
7	6 9
5 6 3 1 9 8 5	8 5
10	4 11
1 2 5	4 11
0 2 3 2	4 13
1 2 4	-1 11
0 2 7 3	4 -1
1 2 4	
1 4 7	
0 5 7 1	
1 1 6	
1 1 2	
1 3 4	

Details:
The initial sequence is: 5 6 3 1 9 8 5.
Query 1 2 5: You will print the specified two numbers from the interval [2; 5].
Query 0 2 3 2: The new sequence is 5 8 5 1 9 8 5.
Query 1 2 4: You will print the specified two numbers from the interval [2; 4].
Query 0 2 7 3: The new sequence is 5 11 8 4 12 11 8.
Query 1 2 4: You will print the specified two numbers from the interval [2; 4].
Query 1 4 7: You will print the specified two numbers from the interval [4; 7].
Query 0 5 7 1: The new sequence is 5 11 8 4 13 11 8.
Query 1 1 6: You will print the specified two numbers from the interval [1; 6].
Query 1 1 2: You will print the specified two numbers from the interval [1; 2].
Query 1 3 4: You will print the specified two numbers from the interval [3; 4].