Argestes and Sequence - HDU 5057

https://vjudge.net/problem/HDU-5057

Argestes has a lot of hobbies and likes solving query problems especially. One day Argestes came up with such a problem. You are given a sequence a consisting of N nonnegative integers, a[1],a[2],...,a[n].Then there are M operation on the sequence.An operation can be one of the following:

S X Y: you should set the value of a[x] to y(in other words perform an assignment a[x]=y).

Q L R D P: among [L, R], L and R are the index of the sequence, how many numbers that the Dth digit of the numbers is P.

Note: The 1st digit of a number is the least significant digit.

Input

In the first line there is an integer T , indicates the number of test cases.

For each case, the first line contains two numbers N and M.The second line contains N integers, separated by space: a[1],a[2],...,a[n]—initial value of array elements.

Each of the next M lines begins with a character type.

If type==S,there will be two integers more in the line: X,Y.

If type==Q,there will be four integers more in the line: L R D P.

[Technical Specification]

1<=T<= 50

1<=N, M<=100000

0<=a[i]<=2^{31}231 - 1

1<=X<=N

0<=Y<=2^{31}231 - 1

1<=L<=R<=N

1<=D<=10

0<=P<=9

Output

For each operation Q, output a line contains the answer.

Sample Input

```
1
5 7
10 11 12 13 14
Q 1 5 2 1
Q 1 5 1 0
Q 1 5 1 1
Q 1 5 3 0
Q 1 5 3 1
S 1 100
Q 1 5 3 1
```

Sample Output

```
5
1
1
5
0
1
```