

Moving point on 2-D plane

NOTE: **DO NOT** alter main function. No changes to main function at all. Do not add, remove or change anything in main function.

Create a class named MovingPoint.

Interface of the MovingPoint class:

1. void initialize(int x, int y); //Initializes the object of MovingPoint class to given co-ordinates (x, y) on the plane. Should be called only once in object's lifetime. If this method is called more than once for any object then it should not change the state of the object (should not change the position of the point on the X-Y plane for all calls except first),
2. void move_left(int x); // Point moves left by x units, as specified in the call
3. void move_right(int x); // Point moves right by x units, as specified in the call
4. void move_up(int y); // Point moves up by y units, as specified in the call
5. void move_down(int y); // Point moves down by y units, as specified in the call
6. void print_current_position(); // Prints current position of the point on the X-Y plane

Input Format

First line contains two integers separated by space (co-ordinates to initialize the point)

Next line contains number n

Next n lines represent n moves. Each line contains direction of the move (Represented by **L, R, U, D**) and units to be moved (an integer). For example line containing **L 5** means move point by 5 units on the left

Constraints

$1 \leq n \leq 1000$

x and y co-ordinates will always remain in -1000 to 1000 range

Output Format

Output should contain only two numbers separated by space.

They should be representing final position of the point.

Sample Input 0

```
0 0
4
L 5
R 4
```

```
U 5
D 6
```

Sample Output 0

```
-1 -1
```

Sample Input 1

```
3 -5
6
L 2
R 4
D 5
U 6
L 7
L 9
```

Sample Output 1

```
-11 -4
```