# **Find the Robot**



#### **Problem Statement**

There is a robot, initially standing at the origin of the Cartesian coordinate system. The coordinates of the robot are, therefore, (0,0). Then, the robot makes N turns.

- On the first turn, the robot goes 1 unit to the right.
- On the second turn, the robot goes 2 units up.
- On the third turn, the robot goes 3 units to the left.
- On the fourth turn, the robot goes 4 units down.
- On the fifth turn, the robot goes 5 units to the right.
- And so on.

Your task is to determine the position of the robot after performing all the N turns.

## **Input Format**

The first line contains a single integer T denoting the number of test cases followed by T lines describing the test cases.

Each line contains a single integer - the value of N, for the corresponding test case.

### **Constraints**

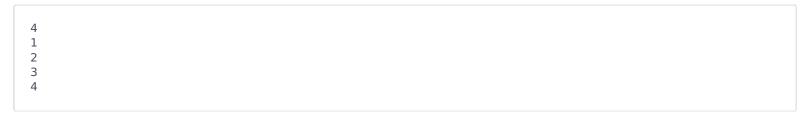
 $1 \le T \le 100$ 

 $1 < N < 10^9$ 

## **Output Format**

For each test case output a single line, containing two integers - the coordinates of the robot after performing N turns.

## Sample Input



## **Sample Output**

```
1 0
1 2
-2 2
-2 -2
```

#### **Explanation**

Initially, the robot is standing at the point (0,0).

 $\bullet$  On the first turn, it moves 1 unit to the right, thus it's new position becomes (1,0).

- ullet On the second turn, it moves 2 units up, thus it's new position becomes (1,2).
- ullet On the third turn, it moves 3 units to the left, thus it's new position becomes (-2,2).
- ullet On the fourth turn, it moves 4 units down, thus it's new position becomes (-2,-2).