

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

$$1 \leq T \leq 100$$

$$1 \leq N \leq 10^9$$

Output Format

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

Sample Input

```
4
1
2
3
4
```

Sample Output

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

Explanation

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

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

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