C. Battle of Midway Island

Time Limit: 1s
Memory Limit: 512MB

The battlefield is a 3D airspace: a position is (x, y, z), where x, y are your projection on the sea surface and z is your altitude. **You are only allowed to fly in the region** $y \geq |x|$.

Initially you start at $(0, 1, h)$, and at each time moment your altitude decreases by 1. During each moment, you will perform **two maneuvers in sequence**:

1. **Barrel roll**: move laterally one grid cell from (x, y, z) to $(x', y, z - 0.5)$ with $|x' - x| = 1$;
2. **Maneuver**: move one grid cell laterally or longitudinally from (x, y, z) to $(x', y', z - 0.5)$ with $|x' - x| + |y' - y| = 1$.

Remember: you must remain within $y \geq |x|$ at all times.

The "Flying Dragon" currently stays at (a, b) (constant). Your goal is to make your projection be exactly (a, b) at the moment your altitude reaches **exactly** 0, so you can bomb it successfully.

The situation is urgent. Please design a program to compute the **number of valid bombing plans**. Since the number could be huge, output it **modulo** 998244353.

Two bombing plans are considered different if there exists at least one point (x, y, z) visited by one plan that the other does not. It is guaranteed that the Flying Dragon is outside the Zero fighters' attack range, i.e., $b \geq |a|$.

Input Format

Each test file contains multiple test cases.

- The first line contains an integer T, the number of test cases.
- Each test case consists of one line with three integers a, b, h:
  - (a, b) is the location of the Flying Dragon on the sea surface,
  - h is your current altitude.

Output Format

For each test case, output one line with a single integer: the number of valid bombing plans modulo 998244353.

Sample 1

Input

```
3
2 756543 1
1 2 1
1 2 5
```

Output

```
0
1
615
```

Explanation

1. For the first test: $a = 2$, $b = 756543$, $h = 1$. It's impossible to reach $(2, 756543)$ on the projection in just one descent.
2. For the second: $a = 1$, $b = 2$, $h = 1$. Exactly one plan exists: barrel roll to $(1, 1, 0.5)$, then maneuver to $(1, 2, 0)$.
3. For the third: result is 615 (omitted detailed reasoning).

Samples 2–8

See attached files. For each pair of samples $(2i - 1, 2i)$, the constraints correspond to subtask i.

Constraints & Notes

This problem uses bundled testing, and all reasonable subtask dependencies are enabled.

Let the sum of all h in a test file be $\sum h$. For all input:

- $1 \le a, b, \sum h \le 10^6$, and $b \ge |a|$.

Subtasks:

- Subtask 1 (5 pts): $\sum h \le 8$.
- Subtask 2 (15 pts): $\sum h \le 500$.
- Subtask 3 (30 pts): $\sum h \le 2 \times 10^3$.
- Subtask 4 (50 pts): no additional constraints.