# Problem E
# Jim's Precision Timing II

**Time limit**: **3 seconds**
**Memory limit**: **1024 megabytes**

## Problem Description

Jim is a skilled League of Legends player who prides himself on his precise timing. Immersed in the cheering of the crowd, he suddenly realizes he's just an ordinary programmer staring at VSCode.

Although he lacks natural time perception, he can compensate using programming!

In this scenario, Jim is under attacks that apply a poison effect:

- Each attack at second $t$ deals damage $d$ for $duration$ seconds, starting from $t$.
- If a new attack occurs before the current poison effect ends, the timer is reset: the poison lasts $duration$ seconds from the new attack.
- Given Jim's initial health $H$, determine whether he is alive after all attacks.

For each test case, determine whether the target survives all attacks. Output '`Alive`' if the target's health remains positive after all attacks, otherwise output '`Dead`'.

## Input Format

The input consists of multiple test cases until EOF. Each test case contains three lines. First line contains three integers, $H$, $d$ and $duration$, representing health, damage and duration time. Second line contains an integer $n$ representing the number of attacks. Third line contains $n$ integers, $t_1, t_2, \cdots, t_n$, separated by space, which sorted in non-decreasing order.

## Output Format

For each test case, output '`Alive`' or '`Dead`' according the remaining health.

## Technical Specification

- $1 \leq H \leq 10^9$
- $1 \leq d \leq 10^7$
- $1 \leq duration \leq 10^7$
- $0 \leq n \leq 10^4$
- $0 \leq t_i \leq 10^7, 1 \leq i \leq n$

## Sample Input 1

```
15 3 2
```

## Sample Output 1

```
Alive
```

```
2
1 2
10 5 3
1
1
```

```
Dead
```