Hablu & Dablu

locked

Problem Submissions Discussions

Problem Statement

Hablu & Dablu are palying a computer game. In the game Hablu has a hero character which health power is H and Dablu has n monster character.The game goes as follows -

- Hablu's hero character has a special gun.In his move he can fire 1 bullet to each of the alive(whose health power is strictly greater than 0) monster and after performing this all the alive monsters power will decrease by 1.
- In Dablu's move he can choose any of his alive monster.Then the choosen monster will attack on Hablu's hero character and after attack Hablu's hero character health power will decrease by that monster current health power.

Players take turns in that game.Hablu will make the first move and nobody can skip any move until the game ends.The game ends when the Hablu's hero character health power became less than 1 or all the Dablu's monster character health power became 0 .Hablu and Dablu both wanted to win the game.Determine the winner if both players play optimally.

Note - Check the sample input & output for more clarification.

Input Format

- The first line will contain two positive integers **n** (the number of monsters) and **H** (the health power of Hablu's hero character)
- The next line will contain the n positive integers (the health power of Dablu's n monsters)

Constraints

- $1 \leq n \leq 10^6$
- $1 \leq H \leq 10^9$
- $1 \leq A_i \leq 10^5$

Output Format

If Hablu win the game print **Hablu** otherwise print **Dablu**.Don't forget to print a newline after each test case.

Sample Input 0

```
5 26
5 6 4 4 7
```

Sample Output 0

```
Hablu
```

Explanation 0

- First move is Hablu's,he will fire 1 bullet to each of the alive monster.After performing this all the alive monster health power will decrease by 1 and the array will be = **[4,5,3,3,6]**
- Second move is Dablu's, he will choose one of his alive monster.Suppose,he choose the monster A[2] whose current health power is 5.Now this monster will attack on Hablu's hero character.After attacking Hablu's hero character health power will became **26-5 = 21**.
- Third move is Hablu's,he will again fire 1 bullet to each of the alive monster.After performing this all the alive monster health power will decrease by 1 and the array will be = **[3,4,2,2,5]**
- Fourth move is Dablu's, he will again choose one of his alive monster.Suppose,he choose the monster A[1] whose current health power is 3.Now this monster will attack on Hablu's hero character.After attacking Hablu's hero character health power will became **21-3 = 18**.

The game will continue in the above process until the Hablu's hero character health power became less than **1** or all the Dablu's monster character health power became **0** .And It is proven that for this test case if both players play optimally Hablu always win the game.

Sample Input 1

```
6 22
5 2 8 2 9 9
```

Sample Output 1

```
Dablu
```

```cpp
//
// Created by Foysal Munsy on 12 / 06 / 2024
// Time: 22 : 29 : 04
//
#include <bits/stdc++.h>
using namespace std;
typedef long long ll;
typedef long double ld;
#define nl '\n'
#define all(x) x.begin(), x.end()
#define rall(x) x.rbegin(), x.rend()
#ifdef LOKAL
#include "DEBUG_TEMPLATE.h"
#else
#define HERE
#define debug(args...)
#endif
const int N = 2e5 + 5;

void solve()
{
    ll n, h;
    cin >> n >> h;
    deque<ll> d;
    for (ll i = 0, x; i < n; i++)
    {
        cin >> x;
        d.push_back(x);
    }
    ll mx = *max_element(all(d));
    --mx;
    ll sum = mx * (mx + 1) / 2;
    ll ans = h - sum;
    if (ans >= 1)
    {
        cout << "Hablu\n";
    }
    else
    {
        cout << "Dablu\n";
    }
}

signed main()
{
#ifndef LOKAL
    ios_base::sync_with_stdio(false);
    cin.tie(nullptr);
#endif
    ll cs = 1;
    ll t = 1;
    // cin>>t;
    for (; t--;)
    {
        // cout << "#case " << cs << " :\n";
        solve();
        cs++;
    }
    return 0;
}
```

Line: 1 Col: 1

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