

Quality and value

Beo wants to buy a new computer and discusses with his friends. Beo's friends think that the more expensive computer, the faster it will run but he did not think so. Bao believes there are at least two laptops where the cheaper one will run faster. You get the description of N computers, find out that if Beo is right or not.

Input

The first line contains an integer N which is the number of laptops.

In the next N lines, each line contains two integers a_i and b_i ($1 \leq a_i, b_i \leq 10^9$) where a_i the price of the computer, b_i is the speed of the machine. No two different computer have same price or same speed.

Output

If Beo's thinking is correct, output "Happy Beo", otherwise output "Poor Beo".

Example

Input:

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2
1 2
2 1
```

Output:

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Happy Beo
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