Size Contest Returns !!

Prachi loves Aradhya. But Aradhya is unaware of that.

She is so crazy about him that she decides to give him a surprise on valentine's day. She tells Aradhya that she loves him by giving him a red rose. Aradhya totally surprised by this behaviour tells Prachi that he has a collection of rings that has **I LOVE YOU** written on some of them but its not necessary that the words **I LOVE YOU** appear one after the other but they should appear in sequence. He asks Prachi to pick up a ring and if it contains **I LOVE YOU** he will accept her proposal.Since its a ring you can start reading from anywhere.

Remember the words I LOVE YOU should appear as whole and not formed by joining two words or should not be a substring of some word. (Thanks Mitch for pointing out the description.)

BEST OF LUCK PRACHI😍

Input

First Line Contains T (<=100).

Next T lines contain a string 's'.

|s| <= 1000

Output

For each test case print "**I LOVE YOU TOO.**" if string contains I LOVE YOU else print "**HARD LUCK PRACHI.**"

Example

Input:
2

I AM IN LOVE WITH YOU

I AM AMERICAN AND DON'T MESS WITH ME

Output:
I LOVE YOU TOO.

HARD LUCK PRACHI.

The less you write the more you Gain.