

H Number

Hesham is the head of acmASCIS junior training committee, and because of huge number of trainees in the training this year, he needs to divide the number of trainees into two, three or five groups. Hesham is working very hard in managing training so it takes a lot from his time to study in SC department. He is very busy implementing Computational Geometry project and he is asking you to do this simple job for him, he wants to know if the number of trainees is divisible by 2, 3 and 5.

Input

First line of input contains number of test cases ($0 < T \leq 300$). Followed by the number of trainees ($0 < N < 100000000$)

Output

For each test case output "Case_#i:_ " + "H-Number" if the number satisfies Hesham's Condition or "Not_H-Number" if not, (without quotes), where "i" is the number of the test case (starting with 1) and "_" is white space.

Example

Input:

2

360

47

Output:

Case #1: H-Number

Case #2: Not H-Number