

Happy Number

1. **Happy Number:** Write a recursion program to find whether the given number is a happy number or not.

Input Format:

- The first line of the input contains the value t, the number of test cases.
- From the second line onwards there are t lines containing n value.

Output Format:

- Print t lines with respective output.

Sample Input #1:

5
1
2
3
4
5

Sample Output #1:

Happy Number
Not a Happy Number
Not a Happy Number
Not a Happy Number
Not a Happy Number

Explanation:

$$\begin{aligned} 19 &= 1^2 + 9^2 = 82 \\ &= 8^2 + 2^2 = 68 \\ &= 6^2 + 8^2 = 100 \\ &= 1^2 + 0^2 + 0^2 = 1 \end{aligned}$$

Which is a Happy Number.