import java.util.Scanner;

import java.util.Set;

public class HappyNumber {

// Function to calculate the sum of the squares of digits in a number

public static int calculateSumOfSquares(int num) {

int sum = 0;

while (num > 0) {

int digit = num % 10;

sum += digit \* digit;

num /= 10;

}

return sum;

}

// Function to check if a number is a happy number

public static boolean isHappyNumber(int num) {

Set<Integer> seen = new HashSet<>();

while (num != 1 && !seen.contains(num)) {

seen.add(num);

num = calculateSumOfSquares(num);

}

return num == 1;

}

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

System.out.print("Enter a number: ");

int num = scanner.nextInt();

if (isHappyNumber(num)) {

System.out.println(num + " is a happy number.");

} else {

System.out.println(num + " is an unhappy number.");

}

}

}