Question 1

Question text

The k-digit number N is an Armstrong number if and only if the k-th power of each digit sums to N. Given a positive integer N, return true if and only if it is an Armstrong number.

```
Example 1:
Input:
153
Output:
true
```

Explanation:

153 is a 3-digit number, and $153 = 1^3 + 5^3 + 3^3$.

Example 2: Input:

123

Output:

false

Explanation:

123 is a 3-digit number, and 123 $!= 1^3 + 2^3 + 3^3 = 36$.

Example 3: Input:

1634

Output:

true

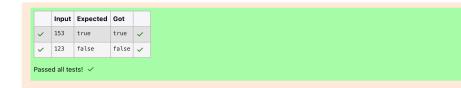
Note:

1 <= N <= 10^8

Program:

```
#include <stdio.h>
#include <math.h>
int main() {
       int num, ori, rem, n = 0;
       scanf("%d",&num);
       double result = 0.0;
       ori = num;
       while (ori!=0) {
              ori/=10;
              n++;
       }
       ori = num;
       while (ori!=0) {
              rem = ori%10;
              result+=pow(rem,n);
              ori/=10;
       if ((int)result == num)
       printf("true");
       else
       printf("false");
       return 0;
}
```

Output:



Question 2

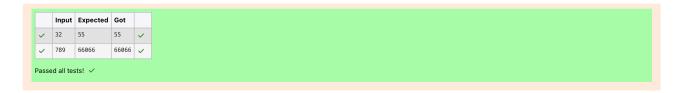
Question text

Take a number, reverse it and add it to the original number until the obtained number is a palindrome. Constraints 1<=num<=99999999 Sample Input 1 32 Sample Output 1 55 Sample Input 2 789 Sample Output 2 66066

Program:

```
#include <stdio.h>
int reverse(int num) {
       int rev = 0;
       while (num!=0) {
              rev = rev*10 + num%10;
             num/=10;
       }
       return rev;
}
int ispalindrome(int num) {
       return num == reverse(num);
}
int main() {
       int num, ori;
       scanf("%d",&num);
       ori = num;
       while(1) {
              int rev = reverse(num);
              if (ispalindrome(num) && num!=ori) {
                    printf("%d",num);
                    break;
             }
             num+=rev;
       return 0;
}
```

Output:



Question 3

Question text

A number is considered lucky if it contains either 3 or 4 or 3 and 4 both in it. Write a program to print the nth lucky number. Example, 1st lucky number is 3, and 2nd lucky number is 4 and 3rd lucky number is 33 and 4th lucky number is 34 and so on. Note that 13, 40 etc., are not lucky as they have other numbers in it.

The program should accept a number 'n' as input and display the nth lucky number as output.

Sample Input 1:

3

Sample Output 1:

5433

Explanation:

Here the lucky numbers are 3, 4, 33, 34., and the 3rd lucky number is 33.

```
34
Sample Output 2:
33344
Program:
#include <stdio.h>
int islucky(int num) {
       while (num>0) {
              int num1;
              num1 = num%10;
              if (num1!=3 && num1!=4)
                     return 0;
              num/=10;
       }
       return 1;
}
int main() {
      int n,c = 0,num = 1;
scanf("%d",&n);
       while (c<n) {
              if (islucky(number)) {
                     C++;
                     if (c==n) {
    printf("%d",num);
                            break;
                     }
              }
              num++;
       return 0;
```

Sample Input 2:

Output:

