STUDENT REPORT

DETAILS

Name

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EXPERIMENT

Title

PALINDROME CONVERSION

Description

Write a program to identify whether the given number N is palindrome based upon the following operations:

Add the given number and its reverse.

Check whether the obtained sum after the first operation is a palindrome or not and if not then repeat the above operation.

The given operation will continue until a palindromic number is found. Print the resultant palindromic number as the output.

Note:

Palindrome: A sequence of letters/characters which reads the same backward and forwards. A single letter/character is also considered a palindrome.

Input Format:

The input consists of a single line:

The line contains a single integer denoting N.

The input will be read from the STDIN by the candidate

Output Format:

Print the resultant palindromic number for the given input. The output will be matched to the candidate's output

Sample Input:

28

Sample Output:

121

Explanation:

Reverse of 28 is 82

28+82=110

Reverse of 110 is 011

110+11=121

So 121 is a palindrome.

Source Code:

```python
def reverse_number(n):
    """Return the reverse of the number."""
    return int(str(n)[::-1])  # Convert number to string, reverse it, and convert back to int


def is_palindrome(n):
    """Check if the number is a palindrome."""
    s = str(n)
    return s == s[::-1]  # Compare string with its reverse


def find_palindrome(n):
    """Find the palindromic number by repeated addition with its reverse."""
    while True:
        reversed_n = reverse_number(n)
        n += reversed_n  # Add the original number and its reverse
        if is_palindrome(n):  # Check if the sum is a palindrome
            return n  # Return the palindromic number


# Input handling
N = int(input().strip())

# Get the resultant palindromic number
result = find_palindrome(N)

# Print the result
print(result)
```

RESULT

5 / 5 Test Cases Passed | 100 %