

# 009. Palindrome Number

## 009 Palindrome Number

- to\_string()
- Math

### Description

Determine whether an integer is a palindrome. Do this without extra space.

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#### Some hints:

Could negative integers be palindromes? (ie, -1)

If you are thinking of converting the integer to string, note the restriction of using extra space.

You could also try reversing an integer. However, if you have solved the problem "Reverse Integer", you know that the reversed integer might overflow. How would you handle such case?

There is a more generic way of solving this problem.

### 1. Thought Line

- (1) If the integer is smaller than 0, return false;
- (2) use to\_string() for converting a integer to a string.

```
1 string str = to_string(int val)
```

- (3) Pure math way

### 2. to\_string()

```
1 class Solution {
2 public:
3     bool isPalindrome(int x) {
4
5         // detect the sign of input integer
6         bool positive = (x>=0)?true:false;
7         if (!positive) return false;
8
9         string str= to_string(x);
10        for (int i=0, j = str.size()-1; i<=j; ++i,--j){
11            if (str[i]!=str[j]) return false;
12        }
13        return true;
14    }
15};
```