# Java

## My Approach

```java
class Solution {
    public boolean isPalindrome(int x) {
        if (x < 0) return false;
        LinkedList<String> l = new LinkedList<>();
        String s = String.valueOf(x);
        String a, b;
        String[] sc = s.split("");
//        System.out.println(sc);
        for (String scs: sc) {
            l.add(scs);
        }
//        System.out.println(l + ", " + l.size());
        while (l.size() > 1) {
            a = l.removeFirst();
            b = l.removeLast();
            int c = Integer.valueOf(a);
            int d = Integer.valueOf(b);
//            System.out.println(c + ", " + d + ", " + l);
            if (c != d) return false;
        }
        return true;
    }
}
```

## By ChatGPT

```java
class Solution {
    public boolean isPalindrome(int x) {
        int number = x;
        String original = Integer.toString(number);
        String reversed = new StringBuilder(original).reverse().toString();

        if (original.equals(reversed)) {
            return true;
        }return false;
```

```
    }
}
```

## Using Maths

```
class Solution {
    public boolean isPalindrome(int x) {
        // Negative numbers and numbers ending with 0 (but not 0 itself) are not
palindrome
        if (x < 0 || (x % 10 == 0 && x != 0)) return false;

        int reversedHalf = 0;
        while (x > reversedHalf) {
            reversedHalf = reversedHalf * 10 + x % 10;
            x /= 10;
        }

        // If number has odd digits, ignore the middle digit (reversedHalf / 10)
        return x == reversedHalf || x == reversedHalf / 10;
    }
}
```

# JavaScript

## My Approach

```
/**
 * @param {number} x
 * @return {boolean}
 */
var isPalindrome = function(x) {
    // x = 1221
    a = new String(x)
    y = a.split("").reverse()
    // console.log(y)
    z = y.join("")
    return z == String(x)
};
```

## By ChatGPT

```javascript
/**
 * @param {number} x
 * @return {boolean}
 */
var isPalindrome = function(x) {
    if (x < 0 || (x % 10 === 0 && x !== 0)) return false;

    let reversedHalf = 0;

    while (x > reversedHalf) {
        reversedHalf = reversedHalf * 10 + x % 10;
        x = Math.floor(x / 10);
    }

    // For even-length numbers: x === reversedHalf
    // For odd-length numbers: x === Math.floor(reversedHalf / 10)
    return x === reversedHalf || x === Math.floor(reversedHalf / 10);
};
```

# Python

## My Approach

```python
class Solution:
    def isPalindrome(self, x: int) -> bool:
        s = str(x)
        res = "".join(list(reversed(list(str(s)))))
        return s == res
```

## By ChatGPT

```python
class Solution:
    def isPalindrome(self, x: int) -> bool:
        if x < 0 or (x % 10 == 0 and x != 0):  # Negative numbers and numbers ending in 0 (except 0) can't be palindrome
            return False

        reversed_half = 0
```

```
        while x > reversed_half:
            reversed_half = reversed_half * 10 + x % 10
            x //= 10

        # For even/odd length numbers
        return x == reversed_half or x == reversed_half // 10
```