

Palindromes

Given an integer x , return true if x is a palindrome and false otherwise

Ex:

Input: $x = 121$
Output: true

constraints:

$$-2^{31} \leq x \leq 2^{31} - 1$$

Algorithm:

1. Input an integer x
2. Check if its negative
if yes, return false
3. store the original number in variable ori
4. Reverse the number using a loop
 - Initialize $sum = 0$.
 - while $x \neq 0$
 - Extract last digit → $digit = x \% 10$
 - Add it to sum → $sum = sum * 10 + digit$
 - Remove last digit from x → $x = x / 10$
5. Compare the reversed number (sum) with original (ori)
6. If they are equal, return true; else return false

code:

```
public class solution {  
    public boolean isPalindrome (int x) {
```

```
        int ori = x, sum = 0;
```

```
        if (x < 0) return false;
```

```
        while (x != 0) {
```

```
            int digit = x % 10;
```

```
            sum = sum * 10 + digit;
```

```
            x = x / 10;
```

```
        }
```

```
        return (ori == sum); }  
}
```