Palindrome Number

Program:

```c
#include <stdio.h>

#include <stdbool.h>

bool isPalindrome(int x) {

    // Negative numbers are not palindromes

    if (x < 0) {

        return false;

    }

    // Special case for 0

    if (x == 0) {

        return true;

    }

    // Find the reverse of the number

    int original = x;

    int reversed = 0;

    while (x != 0) {

        int pop = x % 10;

        x /= 10;

        // Check for overflow/underflow before updating reversed

        if (reversed > (INT_MAX - pop) / 10) {

            return false;

        }

        reversed = reversed * 10 + pop;
```

```c
    }

    // Check if the original number and the reversed number are the same
    return original == reversed;
}

int main() {
    int x1 = 121;
    int x2 = -121;
    int x3 = 10;
    int x4 = 12321;

    printf("Is %d a palindrome? %s\n", x1, isPalindrome(x1) ? "true" : "false");
    printf("Is %d a palindrome? %s\n", x2, isPalindrome(x2) ? "true" : "false");
    printf("Is %d a palindrome? %s\n", x3, isPalindrome(x3) ? "true" : "false");
    printf("Is %d a palindrome? %s\n", x4, isPalindrome(x4) ? "true" : "false");

    return 0;
}
```