1. Implement a C Program for Reversing a 32 bit signed integers

Code

```
#include <stdio.h>
#include <limits.h> // For INT_MAX and INT_MIN

int reverse(int x) {
    long reversed = 0;

    while (x != 0) {
        int digit = x % 10;
        x /= 10;

        reversed = reversed * 10 + digit;

        // Check for overflow
        if (reversed > INT_MAX || reversed < INT_MIN)
            return 0;
    }

    return (int)reversed;
}

int main() {
    int num = 1234; // Example number
    int result = reverse(num);

    printf("Original number: %d\n", num);
    printf("Reversed number: %d\n", result);
```

```
    return 0;
}
```

Output