24 . Reversing a number using recursion

#include <stdio.h>

int reverseNumber(int num) {

// Base case: If the number is zero or single-digit, return it.

if (num == 0 || num / 10 == 0) {

return num;

}

// Calculate the last digit

int lastDigit = num % 10;

// Recursively call the function to reverse the remaining digits

int reversedNumber = reverseNumber(num / 10) \* 10 + lastDigit;

// Handle potential overflow for negative numbers

if (reversedNumber < INT\_MIN || reversedNumber > INT\_MAX) {

return 0; // Indicate overflow

}

return reversedNumber;

}

int main() {

int number, reversed;

printf("Enter a number: ");

scanf("%d", &number);

reversed = reverseNumber(number);

if (reversed == 0) {

printf("Error: Overflow occurred.\n");

} else {

printf("The reverse of %d is %d\n", number, reversed);

}

return 0;

} 