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#include <stdio.h>

// Function to calculate the factorial using an iterative approach
unsigned long long factorialIterative(int n) {
    unsigned long long result = 1; // Using unsigned long long for large numbers

    for (int i = 1; i <= n; i++) {
        result *= i;
    }

    return result;
}

int main() {
    int n;

    printf("Enter a non-negative integer: ");
    scanf("%d", &n);

    if (n < 0) {
        printf("Factorial is not defined for negative numbers.\n");
    } else {
        unsigned long long fact = factorialIterative(n);
        printf("The factorial of %d is: %llu\n", n, fact);
    }

    return 0;
}
```