**23. Armstrong number using do-while-loop**

**PROGRAM:**

#include <iostream>

#include <cmath>

using namespace std;

int countDigits(int num) {

int count = 0;

do {

++count;

num /= 10;

} while (num != 0);

return count;

}

bool isArmstrong(int num) {

int originalNum = num;

int numDigits = countDigits(num);

int sum = 0;

do {

int digit = num % 10;

sum += pow(digit, numDigits);

num /= 10;

} while (num != 0);

return (sum == originalNum);

}

int main() {

int num;

cout << "Enter a positive integer: ";

cin >> num;

if (isArmstrong(num)) {

cout << num << " is an Armstrong number." << endl;

} else {

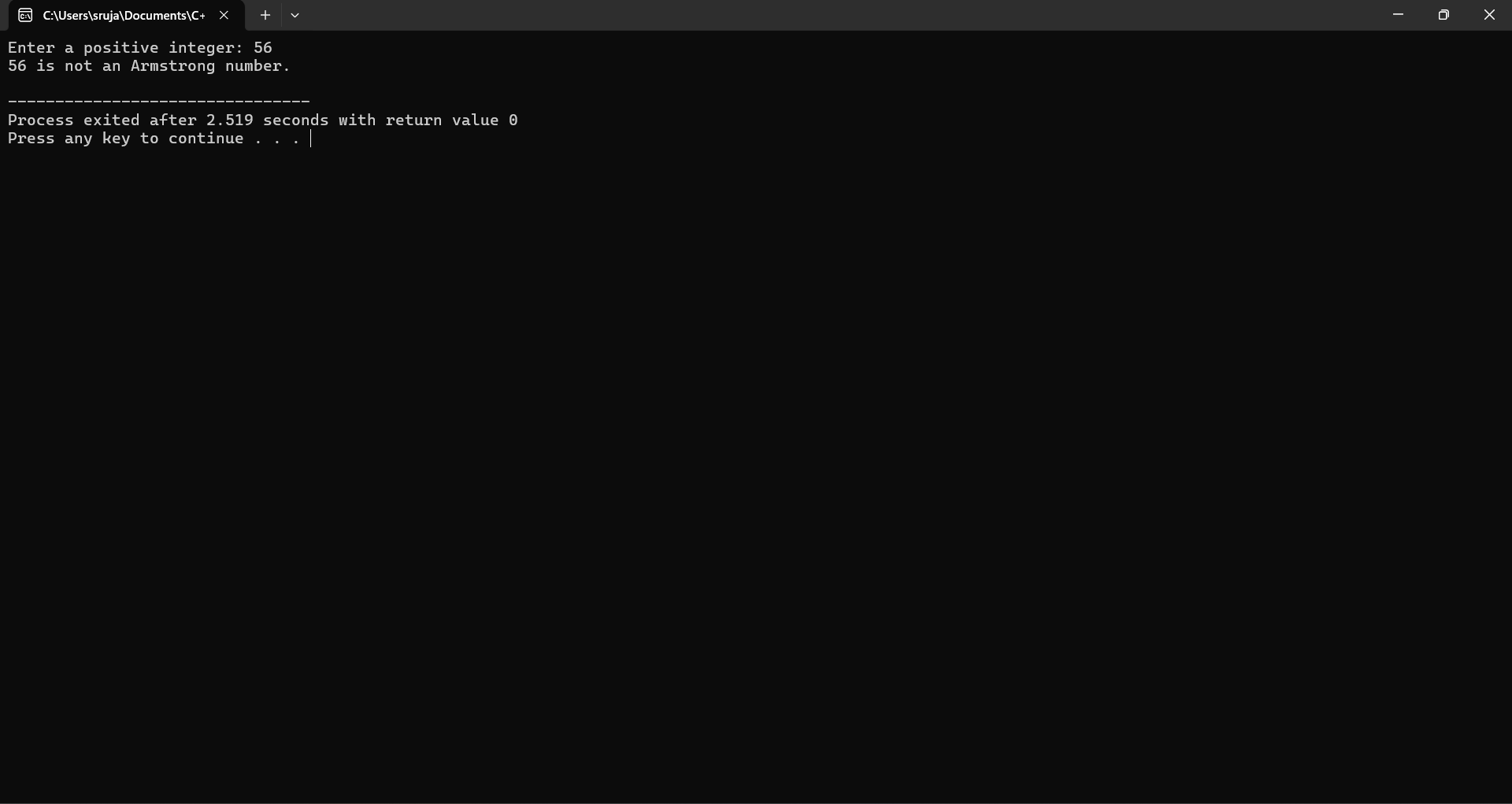
cout << num << " is not an Armstrong number." << endl;

}

return 0;

}

**OUTPUT:**

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