BONUS-PRAC-02

Monsters Multiply (p1v1d1)

Your task is to take two long integers from the user and print their product. The input will be given in the following format
number1 * number2
Note that there is a multiplication symbol between the two numbers. Your output should be the product of these two numbers in a single line. Remember that long integers can take values between -9,223,372,036,854,775,808 and 9,223,372,036,854,775,807 (the commas are given just for sake of ease for humans, Mr C will not be able to understand these commas and give errors so don't use commas inside numbers in your code).

There is no standard datatype in C that can store such large integers so you will have to find some clever way to store the product of these big numbers. Also remember that one or both numbers can be negative too.

There are 4 visible test cases worth 0 marks each i.e. they are not worth any marks. The visible test cases are there just to show you where you are making mistakes. There are 10 hidden test cases worth 2 marks each.

EXAMPLE1
Input:
1233456890 * 9876543210
Output:
12182290271757216900

EXAMPLE2
Input:
112233445566778899 * -998877665544332211
Output:
-112107482103740987777903741240815689

You are **NOT ALLOWED** to use libraries other than stdio.h. You will be penalized if you use any library other than stdio.h (so do not use math.h, string.h or any other library). You **ARE ALLOWED** to use conditional statements (if-else, switch-case, ternary operators) and loops (for, while, do-while) if you know how to use them. You are allowed to use int, long, float, char and double type variables. You may use arrays (i.e. you can use integer arrays or character arrays) but you cannot use string.h. You may define your own functions if you know how to define functions in C.

Your code will be autograded for marks but TAs will look at your code as well to check for copying and other violations. Copying will lead to a straight 0 and further disciplinary action. Violating the above rules (e.g. using string.h) will result in penalties.

DEADLINE FOR BONUS PROBLEM: Your deadline for submitting your solution to the bonus problems is Sunday, August 12, 11:59PM IST. After this time has passed, Prutor will shut down the bonus problem and you would not be able to make any more submissions. Please do not forget to press submit on your code.

CAUTION: DO NOT COPY CODE FROM EACH OTHER and DO NOT COPY CODE FROM THE INTERNET. We will scan your code using plagiarism detection software. If we find copying has been done between students, or some student has copied code from the internet, we will ban that student from all bonus problems in the course and may also initiate disciplinary action.

All Test Cases (Visible + Hidden)

Input	Output
10 * 10	100
1233456890 * 9876543210	12182290271757216900
112233445566778899 * -998877665544332211	-112107482103740987777903741240815689
101010101010101010 * 202020202020202020	20406081012141618161412100806040200
120 * 20	2400
-12345 * -98765	1219253925
-123456789 * 200	-24691357800
987654321 * 987654321	975461057789971041
9223372036854775807 * 1000000000000000000	9223372036854775807000000000000000000
9223372036854775807 * 9223372036854775807	85070591730234615847396907784232501249
9223372036854775807 * -9223372036854775808	-85070591730234615856620279821087277056
-9223372036854775808 * -9223372036854775808	85070591730234615865843651857942052864
1234567900987654321 * 1234567890987654321	1524157889803383633104709647789971041
8888888888888888888 * 7777777777777777777	69135802469135802455308641975308641976