A Simple Calculator

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1. Code Explanation
   1. Struct BigNum

1.1.1BigNum is struct to store big num having basic parameters.

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1.1.2 Defined function optimize can adjust size and a[n] to delete the pre and suf zeros. **And if it is all zeros, which means its value is 0, we just manipulate it manually.**

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1.1.3Reloaded operator \* which return a new BigNum equal to BigNum1 and BigNum2.

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1.1.4 Defined function read can intialize the parameters to equal to given string s (the input must be valid).

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1.1.5 Defined function print can print the value in the format like 213e12321 or just 21300 or or 0.0123. **Only when the normal print is to long, we print it with ‘e’ format like 2130000000000 into 213e10, also like 0.0000000000213 into 213e-13.**

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1.1.5 A functional function readString, just used to assign value to e, can transform a string-like long long integer into long long integer type.

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* 1. Valid judgements

1.2.1 Defined function isPureNum can return ture **IFF** all char of given string are digits.

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1.2.2 Defined function isNum can return true **IFF** string is in '-123' or '-1.23'-like format.

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1.2.3 Defined function isValid can return true **IFF** string is in '-123' or '-1.23' or '-1.23e-12'-like format.

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1.2.4 Defined function isIntNum can return true **IFF** string is in '-123'-like integer format.

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* 1. Main

For two string, check if it is valid. Then transform two string into BigNum. Then multiply this two BigNum and print the result BigNum.

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1. Requirements

2.1 When you run the program as follows, it will output the expression and the result. The two numbers should be input through the command line arguments. If the two numbers are integers, the

program will multiply them in integer format.文本

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2.2 If the input contains some non-integer numbers, the program will try to interpret the input as floatingpoint numbers.

**(it can also identify 0002 wisely)**

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2.3 It can tell that the input is not a number.return true **IFF in format (-)123(.)123(e(-)123).**

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2.4 If you input some big integers, what will happen? Please describe some possible solutions, and try to

implement them.

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2.5 If you input some big floating-point numbers, what will happen? Please describe some possible

solutions, and try to implement them.文本

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2.6 Some others which can improve the program.like the highlight of 2.2 and 2.3.

We can enlarge the parameter range in BigNum. Like the size of a[n]. also we can use a array to store the number of e. but in practice is unnecessary.

In the main function. We can check if there is two or more string. If not, print “please input two string!”.