Lab3

```
Course: OOP
Topic: Operator Overloading
Release: Monday, May 26, 2014
Due: Monday, June 9, 2014
Upload: FTP
```

It is well-known that there is a strict limit for type int, long or long long. We have Bignum in JAVA, however, you need a extra bignum library in C++ to achieve the same goal.

In this lab, you are required to write your own Bignum class. After completing your code, you will get a better understanding of operator overloading in C++.

Release

You are required to write all code by yourself. We only provide two files which are sample input and output:

- sample.in
- sample.out

Please notice that we will test your code with other data.

Requirement

You are required to implement following operator:

- +, the sum of two large integer
- -, the difference of two large integer
- *, the product of two large integer
- /, the quotient of two large integer
- >>, input a large integer
- <<, output a large integer

In the meanwhile, your operator should support:

- multiple calculation in one expression, such as "1 + 2 + 3" and "cin >> a >> b >> c"
- out-of-range warning, if input integer is too large

And since life is short, you don't have to support:

- expression with parentheses
- operator precedence: in one expression, we have at most *TWO* operators which have the same precedence.(+ and - together, or * and / together)

Input && Output

Input:

```
"lab3.in"
first line: n <= 100, the number of expressions
following: n lines, with one expression in one line (length of large integer
l <= 100)
```

Output:

```
"lab3.out"
n lines, with one answer in one line
```

Expressions please refer to released files.

Score

Item	Score	Num	Total
simple testcase	5	6	30
hard testcase	10	3	30
multiple calculation in one line	10	1	10
programming style	30	1	30
Sum	-	-	100

Notice:

- we test your code *AUTOMATICALLY*, please use *FILE* intput and output !!! Any problems with input and output filename lead you to 50% of your score. And any other problems lead you to 0 score.
- 0 score for plagiarist !!!
- 10%/day penalty for any delay, 0 score for more than 3-day delay

Handin

Name your directory as "studentid" like "11300180158" *WITHOUT* studentname, containing:

- lab3.h
- lab3.cpp

Do *NOT* upload zip or rar file !!!

Be sure all your files are encoding in UTF-8 !