

# Network Security Homework1

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- **Develop Environment**

Operation System	Ubuntu 16.04
Compiler	GNU C/C++
Extra Import Library	gmp

- **Set up on Linux Debian System-Step Description**

Enter the following command to install gmp library in Linux terminal.

```
$ sudo apt-get install m4
$ wget https://gmplib.org/download/gmp/gmp-6.1.2.tar.bz2
$ tar -jvxf gmp-6.1.2.tar.bz2
$ cd gmp-6.1.2
$ ./configure --enable-cxx
$ make
$ make check
$ make install
```

- **Compile and Run the Program**

```
$ g++ 109064518_hw1.cpp -o hw1 -lgmp -lgmpxx
$ ./hw1
```

- **The compile result of the Ubuntu terminal**

```
jerry86064@jerry86064-VirtualBox:~/Desktop/homework1$ g++ 109064518_hw1.cpp -o hw1 -lgmp -lgmpxx
jerry86064@jerry86064-VirtualBox:~/Desktop/homework1$ ./hw1
[109064518 Sheng-Che Kao Assignment#1]

<Big-Number arithmetic>
a=f1245ab3341ff3461818881767676819ee
b=ffa24387539639853800bbebcb494990

a+b=1011e7eeba95956de6b9893d63332b1637e
The absolute value result is:1011e7eeba95956de6b9893d63332b1637e
a-b=e12a367abee68fadc4987c589b9c1ed05e
The absolute value result is:e12a367abee68fadc4987c589b9c1ed05e
a*b=f0cc0ef5e2f7d593719ce283c6efb373d86a14d50f9f5c5ba42a6bae39ff8d173e0
The absolute value result is:f0cc0ef5e2f7d593719ce283c6efb373d86a14d50f9f5c5ba42a6bae39ff8d173e0
a/b=f
The absolute value result is:f
a%b=17c3b6455c31d593397d7e9767e1cca7e
The absolute value result is:17c3b6455c31d593397d7e9767e1cca7e
```

Fig.1 Ubuntu terminal result