# BONUS(3)

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# Constructer

```
BigNUM::BigNUM(int digit)//使用亂數讓每一格的數字都不一樣
{
    digits = digit;//輸入位數

    srand(time(NULL));//亂數種子

    ptr = new long long int[100000]();//動態陣列

    for (int i = 0; i < digits; i++)//輸入位數的每一位都產生1~9
    {
        ptr[i] = rand() % 9 + 1;
    }

    if (digits == 0)//如果位數 = 0, 就是零
        ptr[0] = 0;
}
```

# Driver program

```
#include<iostream>
#include"s1061443_BigNum.h" //Before your test this driver program, please replace it by your own file name.

//ref: https://defuse.ca/big-number-calculator.htm
//you may modified this example to test your program in various condition and input numbers
//(updated at 0324)

 using namespace std;

int main(int argc, char *argv[]) {
    BigNUM n1(60), n2(37), n3(45), n4(59);
    cout << "Hello, I'm driver program: " << endl;

    cout << "n1 = ";
    n1.print();

    cout << "n2 = ";
    n2.print();

    cout << "n3 = ";
    n3.print();

    cout << "n4 = ";
    n4.print();

    cout << "n1 + n2 = ";
    n1.add(n2);
    n1.print();

```

```
29
30      cout << "n3 - n2 = ";
31      n3.minus(n2);
32      n3.print();
33
34      cout << "n1 * n2 = ";
35      n1.multiply(n2);
36      n1.print();
37
38      cout << "n3 * n4 = ";
39      n3.multiply(n4);
40      n3.print();
41
42      cout << "n2 * n3 = ";
43      n2.minus(n3);
44      n2.print();
45
46      cout << "n4 - n2 = ";
47      n4.minus(n2);
48      n4.print();
49
50      system("pause");
51      return 0;
52  }
```

# 輸出結果


C:\Users\user\Desktop\Project1\Debug\Project1.exe
Hello, I'm driver program:
n1 = 3689773974623643739456996662763142292829459374634827321554l5
n2 = 96662763142292829459374634827321554l5
n3 = 37394569966627631422928294593746348273215541 5
n4 = 68977397462364373945699666276314229282945937463482732155415
n1 + n2 = 368977397462364373945709332552628458565891874926965464310830
n3 - n2 = 373945690000000000000000000000000000000000000000
n1 * n2 = 3566637477576416678983358109578090002876034144304493940062531086177761908193207916323223427644450
n3 * n4 = 257938004884680948465426842384660551260294238174789000789418494113500000000000000000000000000000000000000000000
n2 * n3 = 74206199511531905153457315761533944873970576182521099921058150588659666276314229282945937463482732155415
n4 - n2 = 257938004884680948465426842384660551260294238864562975413062233570400000000000000000000000000000000000000000000
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