

CSCI204/MCS9204/CSCI804  
Object and Generic Programming in C++  
Laboratory Exercise 3 (Week 4)

**Task: Constructors, destructor (1.0)**

Define a class **BigInteger** in a file **BigInteger.h** that can be used to store a large positive integer. The class contains two data members: a pointer of short integer and the size of the dynamic short integer array. Define the following member functions:

- The default constructor;
- An initialization constructor initializes a BigInteger instance with a long long integer;
- An initialization constructor initializes a BigInteger instance with a char array, in which all elements are decimal digits.
- The copy constructor makes a deep copy from a BigInteger instance.
- The destructor;
- Add function adds the current instance with another BigInteger instance and returns the result of the addition.
- Print function print out the current BigInteger value to an output stream.

Implement the member functions defined above in a file **BigInteger.cpp**.

Write the driver program include main function in a file **testMain.cpp** to declare instances of BigInteger, test all the member functions defined above. The values are up to you.

**Submission:**

You should submit the files of the task to the server by 11:59 PM on Friday, 21 August 2015 via command:

```
submit -u your-user-name -c CSCI204 -a L3 BigInteger.h BigInteger.cpp testMain.cpp
```

and input your password.

**Make sure that you use the correct file names. The UNIX system is case sensitive. You must submit all files in one *submit* command line.**

After submit your assignment successfully, please check your email of confirmation. You should keep this email for the reference.

**You would receive ZERO of the marks if your program codes could not be compiled correctly.**

**Later submission will not be accepted. Submission via e-mail is NOT acceptable.**

***End of Specification***