

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 (Do not read input data from the keyboard or a file).

Submission:

You should submit the files of the task to the server by 11:59 PM on Friday, 25 March 2016 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