**Assignment04**

Programming Fundamentals

Submission deadline: 21st June, 2021 – 10.00 PM

**Submission Guidelines:**

* Submit the assignment only on **google classroom within deadline.**
* Late submissions upto **15** mins are allowed with a penalty of **30%** on google classroom. After that **no** submission will be entertained
* Name the source file as “assign01-roll#.cpp”. For example **assig01-i200561.cpp**
* Submit three files as explained at the end
* Failing to follow the submission guidelines will result in penalties.

**Link List**

In this assignment, you will working with the Integer Link List class, and will be adding some features to it as described below. Implement the following for the integer Link list class:

* + operator overload

To combine the elements of two link lists, and return the combined link list. No change should occur in the link lists involved in the operation.

* == operator overload

Check if the two link list are same or not

* < operator overload

Sum up the elements of each link list, and compare the two sums

* > operator overload

Sum up the elements of each link list, and compare the two sums

* \* operator overload

The two operands in this case will be the link list and an integer, e.g., someList\*3

Multiply each element of the link list with the integer

* Destructor

Destructor is a function, which has a same name as the name of the class, but with a preceding ~ sign. This function is automatically called when an object is destroyed. Just like constructor, it has no return type. Implement this function, so that it should delete all the nodes, so that dynamic memory can be returned back to the system, avoiding the memory leak.