**Project 2**

**Objective:** Learning linked list.

**Problem Specification:**

An employer would like to maintain a linked list for employees, the data stored is

* An employee number (a positive integer)
* A yearly salary (a float).

The employer would like you as the programmer design and implement a linked list using classes. For each class two files are needed, one to define the class, the other to implement the methods. In addition, the client uses a menu driven program with options to handle choices (methods). The methods are:

* **Insert**: Which inserts elements at the beginning of the list, which is the most recent input is at the beginning of the list.
* **Remove**: which deletes the last element in the list.
* **Display**: its purpose is to display the list but needs the assistance of a Print function.
* **Print**: a recursive function that prints all the elements of the list, first to last.
* **Clear**: a recursive function that deletes every Node from the list and leaves the list empty.

**Requirements:**

* Define a class **Node** containing the employee’s data and a pointer to the next **Node**.
* Define the necessary functions to access, instantiate, and set the data in the class **Node**.
* Define a class **LinkedList** that has only one data member, a pointer to a Node, and the necessary member functions in addition to the member functions above.

**Grading criteria:**

10 points Sufficient comments including specifications

5 points Menu is used to display options and calls methods.

5 points Guards are used.

10 points **insert** performs it task correctly.

10 points **remove** performs it task correctly.

10 points **display** performs it task correctly.

10 points **print** is recursive and performs it task correctly.

10 points **clear** performs it task correctly in a recursive manner.

10 points **UML** class diagram.

15 points Program runs correctly and performs its task correctly.

5 points test run is handed-in.

**Submission Details:**

Submit a print-out of:

* The source program
* Demonstration of all activities.

**\*\*\* Due On: 10/10/2017 \*\*\***