# ICT208 Algorithms and Data Structures

# Assessment 2: Case Study 1 – To Do List

**Case study:**

To implement a to-do list application in c++ using LinkedList, the “task” string and the to-do listed is needed to store in the data field of the LinkedList. As the to-do list instance can also be implemented with LinkedList, we have to use nested LinkedList. Here are 4 class namely, node, LinkedList, node\_for\_todo\_list, and LinkedList\_for\_todo\_list is created. Node is a simple data structure to store a string as data. LinkedList being a chain of nodes can serve as a to-do list object. So, a name field is added to the LinkedList structure to identify the LinkedList with a name of to-do.

This structure is enough to implement simple to-do list. To allow user to create unlimited to-do lists, we need another LinkedList having nodes that can store instances of to-do list. It is basically list of lists. So, a global instance of LinkedList\_for\_todo\_list namely ToDo\_List is created which can store unlimited to-do list.

Then all the basic functions of LinkedList like inserting and deletion by various method is implemented. A clean user interface is provided using different function to access and interact with the properties of application conveniently.

