MCIS5313_029211S: Data Structures and Algorithms, Assignment#3: Linked List

A linked list is an object that creates, references and manipulates node objects. In this assignment, you are asked to write a Python program to create a linked list and do a set of operations as follows:

1. Create an empty linked list
2. Create and insert a new node at the front of the linked list
3. Insert a new node at the back of the linked list
4. Insert a new node at a specified position in the linked list
5. Get a copy of the data in the node at the front of the linked list
6. Get a copy of the data in the node at a specified position in the linked list
7. Remove the node at the front of the linked list
8. Remove the node at the back of the linked list
9. Remove the node at a specified position in the linked list
10. Traverse the list to display all the data in the nodes of the linked list
11. Check whether the linked list is empty
12. Check whether the linked list is full
13. Find a node of the linked list that contains a specified data item

These operations can be implemented as methods in a **class** you can name: **LinkedList**