

1. Overview of Classes

- **Class Node:** Node objects that are used to create a double linked list. The nodes created will hold data of type string and a pointer of the addresses towards the next and previous nodes. Also the use of 'friend class' will allow other class to access the private variables of this node class.
 - o Member Variables:
 - data (data type: string) -----stores information
 - next(data type: Node pointer) ----- address to next node
 - previous(data type: Node pointer)-----address to previous node
 - o Member Functions:
 - Node: a Constructor
 - ~Node: a Destructor
- **Class Deque:** A data structure that is created using a doubly linked list. It is a dynamic data structure that will store the data in a list of connected nodes performing functions such as adding and deleting elements at the front and end of a linked list and many more.
 - o Member variables:
 - size(data type: int)-----max size of the deque
 - counter (datatype: int)----- current size of list
 - tmpData(datatype: string)----- temporary data
 - tmp (datatype: Node pointer)----- temporary pointer
 - head (datatype: Node pointer)----- address to first element in the deque
 - tail (datatype: Node pointer)----- address to last element in the deque
 - o Member functions:
 - addFront, addBack: add element to front or back of list
 - removeFront, removeBack: remove element from front or back of list
 - clear: clear all elements from list
 - checkSize: return size of element
 - accessFront, accessBack: return the element at the front or back of list
 - checkEmpty: check if there is any elements in the list
 - find: searches for a specific URL in the list
 - print: outputs all elements from back of the deque to the front