**** LINKED LIST WITH IT’S TYPES ****

- A linked list is a linear data structure, in which the elements are not stored at contiguous memory locations.
- The elements in a linked list are linked using pointers.
- In simple words, a linked list consists of nodes where each node contains a data field and a reference(link) to the next node in the list.
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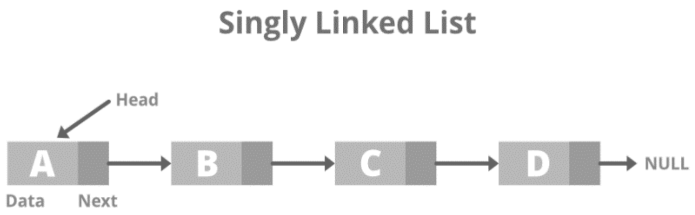
Types Of Linked List:

1. Singly Linked List

It is the simplest type of linked list in which every node contains some data and a pointer to the next node of the same data type.

The node contains a pointer to the next node means that the node stores the address of the next node in the sequence.
A single linked list allows the traversal of data only in one way.

```
# Node of a singly linked list
class Node:
        def __init__(self, data):
                self.data = data
                self.next = None
```

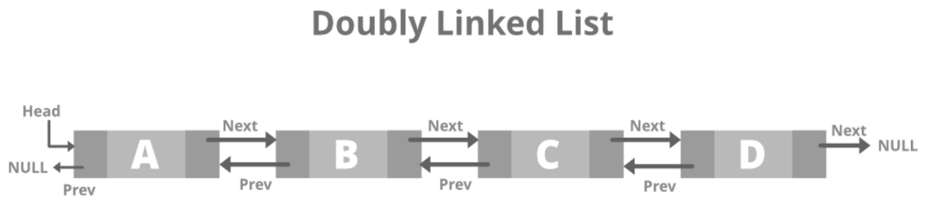


2. Doubly Linked List

A doubly linked list or a two-way linked list is a more complex type of linked list that contains a pointer to the next as well as the previous node in sequence.
Therefore, it contains three parts of data, a pointer to the next node, and a pointer to the previous node. This would enable us to traverse the list in the backward direction as well.

```
# structure of Node
```

```
class Node:
        def __init__(self, data):
                self.previous = None
                self.data = data
                self.next = None
```

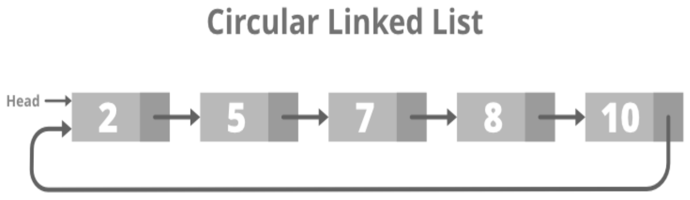


3. Circular Linked List

A circular linked list is that in which the last node contains the pointer to the first node of the list.

While traversing a circular linked list, we can begin at any node and traverse the list in any direction forward and backward until we reach the same node we started. Thus, a circular linked list has no beginning and no end.

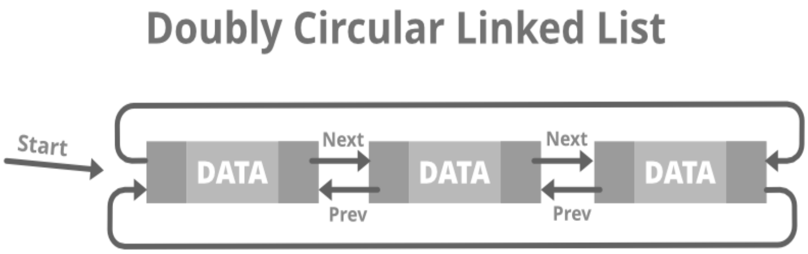
```
# structure of Node
class Node:
        def __init__(self, data):
                self.data = data
                self.next = None
```



4. Doubly Circular linked list

A Doubly Circular linked list or a circular two-way linked list is a more complex type of linked list that contains a pointer to the next as well as the previous node in the sequence. The difference between the doubly linked and circular doubly list is the same as that between a singly linked list and a circular linked list. The circular doubly linked list does not contain null in the previous field of the first node.

```
# structure of Node
class Node:
    def __init__(self, data):
        self.previous = None
        self.data = data
        self.next = None
```


Doubly Circular Linked List
Start
DATA
Next
Prev
DATA
Next
Prev
DATA