

```
In [1]: class Node:
        def __init__(self, data):
            self.data = data
            self.next = None

        class LinkedList:
            def __init__(self):
                self.head = None

            def insertEnd(self, data):
                new = Node(data)
                if self.head == None:
                    self.head = new
                    return
                temp = self.head
                while temp.next != None:
                    temp = temp.next
                temp.next = new

            def deleteBeg(self):
                if self.head == None:
                    print("Linked List Empty")
                    return
                self.head = self.head.next

            def display(self):
                if self.head == None:
                    print("No node to display")
                    return
                temp = self.head
                while temp != None:
                    print(temp.data, end = " ")
                    temp = temp.next

li = LinkedList()
li.insertEnd(10)
li.insertEnd(20)
li.insertEnd(30)
li.display()
```

10 20 30

## Searching

### Linear Search

```
In [2]: l = [int(i) for i in input('Enter values: ').split()]
x = int(input('Enter the item to search: '))

for i in l:
    if i == x:
        print("Hurray! Item found")
        break
else:
    print("Item not found")
```

Enter values: 10 20 30 40 50  
Enter the item to search: 45  
Item not found

```
In [3]: l = [int(i) for i in input('Enter values: ').split()]
x = int(input('Enter the item to search: '))

for i in range(0, len(l)):
    if l[i] == x:
        print("Hurray! Item found at index:", i)
        break
else:
    print("Item not found")
```

Enter values: 10 20 30 40 50  
Enter the item to search: 40  
Hurray! Item found at index: 3

## Sorting

### Bubble Sort

```
In [4]: l = [int(i) for i in input('Enter values: ').split()]
for i in range(0, len(l)):
    swapped = 0
    for j in range(0, len(l) - 1 - i):
        if l[j] > l[j + 1]:
            l[j], l[j + 1] = l[j + 1], l[j]
            swapped = 1
    if swapped == 0:
        break
print(l)
```

Enter values: 9 6 5 0 8 2  
[0, 2, 5, 6, 8, 9]

## Swapping two variables

```
In [5]: a = 10  
b = 20  
a, b = b, a  
print(a, b)
```

20 10

```
In [ ]:
```