

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

class CircularLinkedList:
    def __init__(self):
        self.last = None

    def addToEmpty(self, data):

        if self.last != None:
            return self.last

        newNode = Node(data)

        self.last = newNode

        self.last.next = self.last
        return self.last

    def addFront(self, data):

        if self.last == None:
            return self.addToEmpty(data)

        newNode = Node(data)

        newNode.next = self.last.next

        self.last.next = newNode

        return self.last

    def addEnd(self, data):
        if self.last == None:
            return self.addToEmpty(data)

        newNode = Node(data)

        newNode.next = self.last.next

        self.last.next = newNode

        self.last = newNode

        return self.last

    def addAfter(self, data, item):

        if self.last == None:
            return None

        newNode = Node(data)
        p = self.last.next
```

while p:

if p.data == item:

newNode.next = p.next

p.next = newNode

if p == self.last:

self.last = newNode

return self.last

else:

return self.last

p = p.next

if p == self.last.next:

print(item, "The given node is not present in the list")

break

def deleteNode(self, last, key):

if last == None:

return

if (last).data == key and (last).next == last:

last = None

temp = last

d = None

if (last).data == key:

while temp.next != last:

temp = temp.next

temp.next = (last).next

last = temp.next

while temp.next != last and temp.next.data != key:

temp = temp.next

if temp.next.data == key:

d = temp.next

temp.next = d.next

return last

def traverse(self):

if self.last == None:

print("The list is empty")

return

newNode = self.last.next

while newNode:

print(newNode.data, end=" ")

newNode = newNode.next

```
        if newNode == self.last.next:  
            break
```

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if __name__ == "__main__":
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    cll = CircularLinkedList()
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    last = cll.addToEmpty(6)
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    last = cll.addEnd(8)
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    last = cll.addFront(2)
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    last = cll.addAfter(10, 2)
```

```
    cll.traverse()
```

```
    last = cll.deleteNode(last, 8)
```

```
    print()
```

```
    cll.traverse()
```