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class _Node:
    __slots__ = '_element', '_next'

    def __init__(self, element, next):
        self._element = element
        self._next = next

class LinkedList:
    def __init__(self):
        self._head = None
        self._tail = None
        self._size = 0

    def __len__(self):
        return self._size

    def isempty(self):
        return self._size == 0

    def addlast(self, e):
        newest = _Node(e, None)
        if self.isempty():
            self._head = newest
        else:
            self._tail._next = newest
        self._tail = newest
        self._size += 1

    def addfirst(self, e):
        newest = _Node(e, None)
        if self.isempty():
            self._head = newest
            self._tail = newest
        else:
            newest._next = self._head
            self._head = newest
        self._size += 1

    def addany(self, e, position):
        newest = _Node(e, None)
        p = self._head
        i = 1
        while i < position-1:
            p = p._next
            i = i + 1
        newest._next = p._next
        p._next = newest
        self._size += 1

    def removefirst(self):

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    if self.isempty():
        print('List is empty')
        return
    e = self._head._element
    self._head = self._head._next
    self._size -= 1
    if self.isempty():
        self._tail = None
    return e

def removelast(self):
    if self.isempty():
        print('List is empty')
        return
    p = self._head
    i = 1
    while i < len(self) - 1:
        p = p._next
        i = i + 1
    self._tail = p
    p = p._next
    e = p._element
    self._tail._next = None
    self._size -= 1
    return e

def removeany(self, position):
    p = self._head
    i = 1
    while i < position - 1:
        p = p._next
        i = i + 1
    e = p._next._element
    p._next = p._next._next
    self._size -= 1
    return e

def display(self):
    p = self._head
    while p:
        print(p._element, end='-->')
        p = p._next
    print()

def search(self, key): #searching element
    p = self._head
    index = 0
    while p:

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        if p._element == key:
            return index
        p = p._next
        index += 1
    return -1
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```
L = LinkedList()
L.addlast(7)
L.addlast(4)
L.addlast(12)
L.addlast(8)
L.addlast(3)
L.display()
i = L.search(8)
print('Result:',i)
index = L.search(20)
print('Result:',i)
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L.addfirst(25)
L.display()
print('Size:',len(L))
L.addlast(35)
L.display()
print('Size:',len(L))
```

```
ele = L.removefirst()
L.display()
print('Size:',len(L))
print('Element Removed:',ele)
```

```
print('Size:',len(L))
ele = L.removeany(3)
L.display()
print('Size:',len(L))
```

```
ele = L.removelast()
L.display()
print('Size:',len(L))
print('Element Removed',ele)
```