

***Data Strcture***  
***LAB 5***

***PREPARED BY:***  
***AYOOB ABDULMUNEM***  
**Ahmed Eskander Mezher**



# **Lecture Outline: -**

- 1- insert a node at the beginning of the linked list**
- 2- compute the length of the linked list**



# insert a node at the beginning of the linked list

```
class Node:
    def __init__(self,data,next=None):
        self.data = data
        self.next = next
class linklist:
    def __init__(self,head=None):
        self.head=head
    def insert_begin(self,data):
        nod=Node(data)
        if self.head==None:
            self.head=nod
            return
        nod.next=self.head
        self.head=nod
```



```
LL=linklist()
LL.insert_begin(4)
LL.insert_begin(5)
LL.insert_begin(6)
```



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head = None



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            return
        nod.next=self.head
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head = None

nod



→ LL=linklist()  
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head = None



head

nod



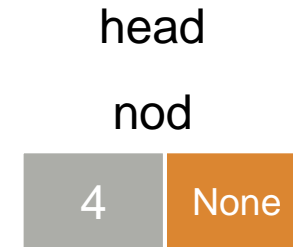
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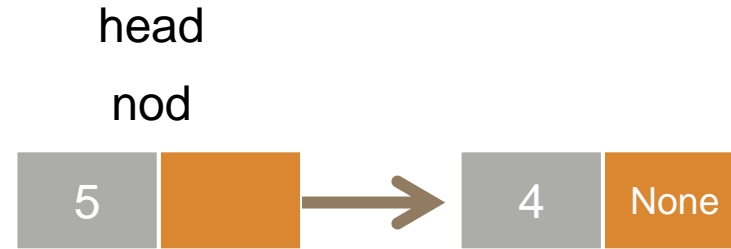
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# compute the length of the linked list

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class linklist:
    def __init__(self,head=None):
        self.head=head
    def length(self):
        p=self.head
        count=0
        while p!= None:
            p=p.next
            count +=1
        return count
```



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p  
head



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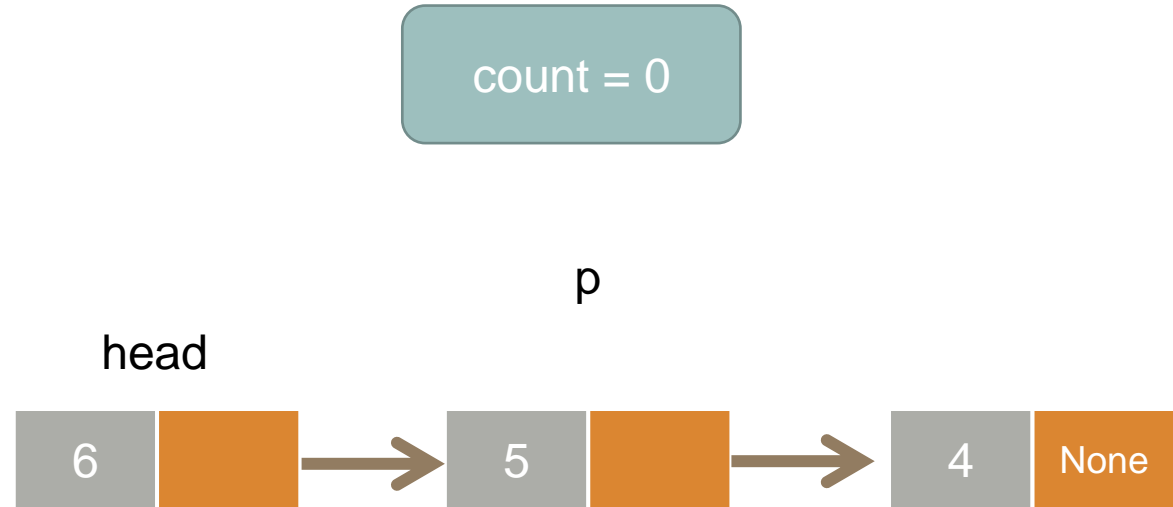


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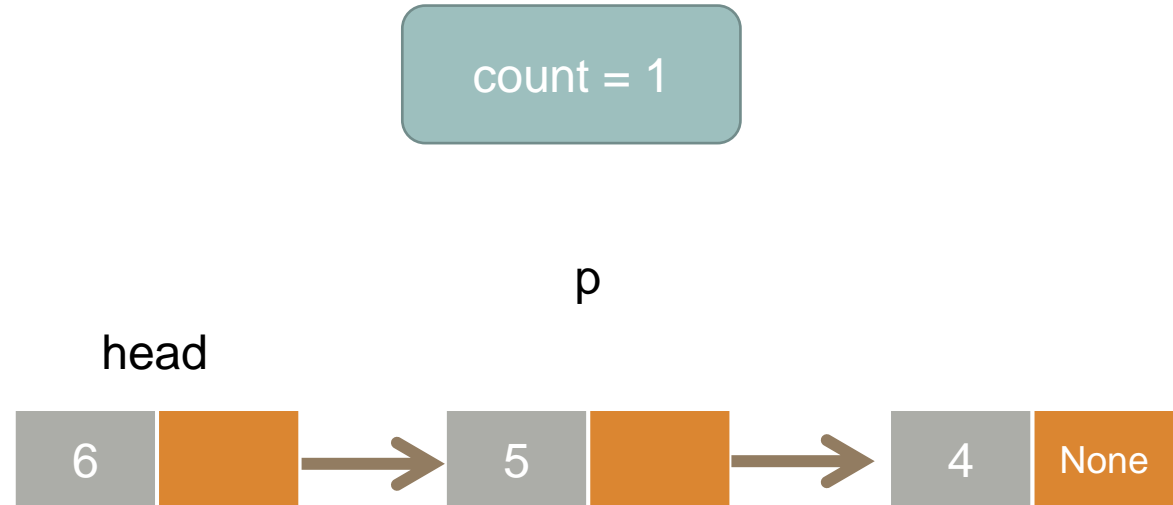


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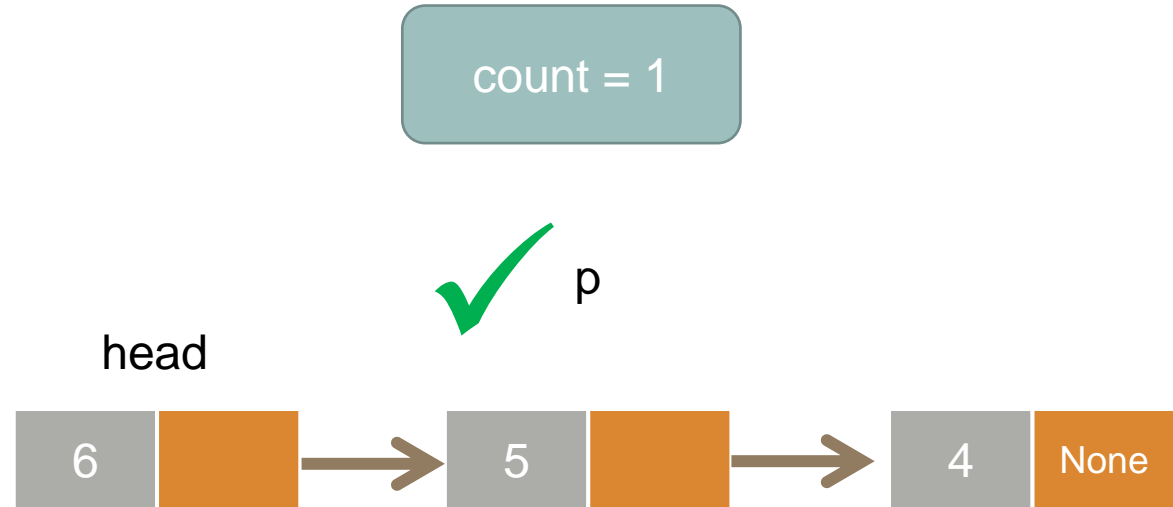


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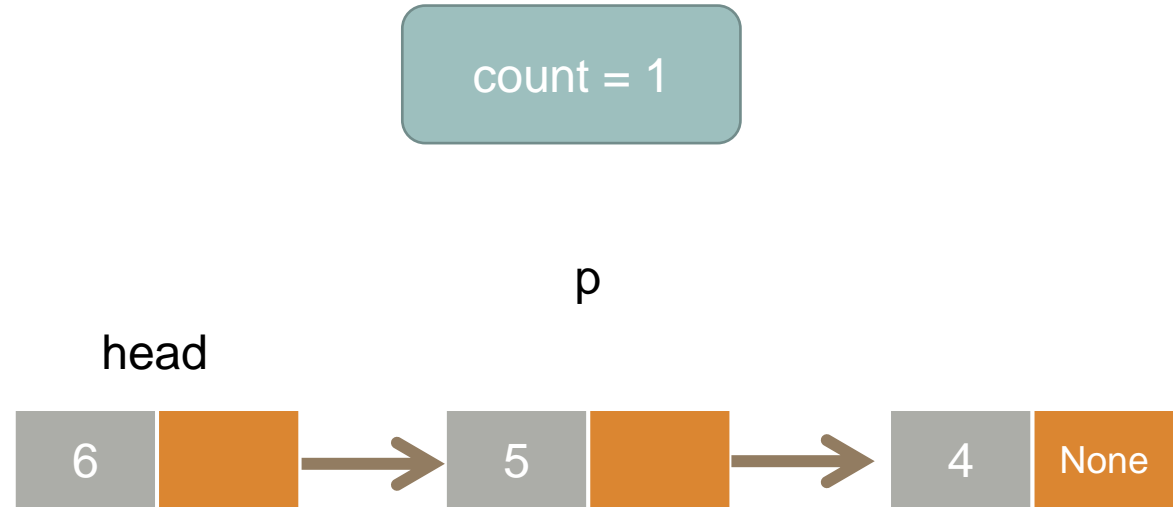


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            count +=1
        return count
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LL=linklist()
LL.insert_begin(4)
LL.insert_begin(5)
LL.insert_begin(6)
print(LL.length())
```

count = 1

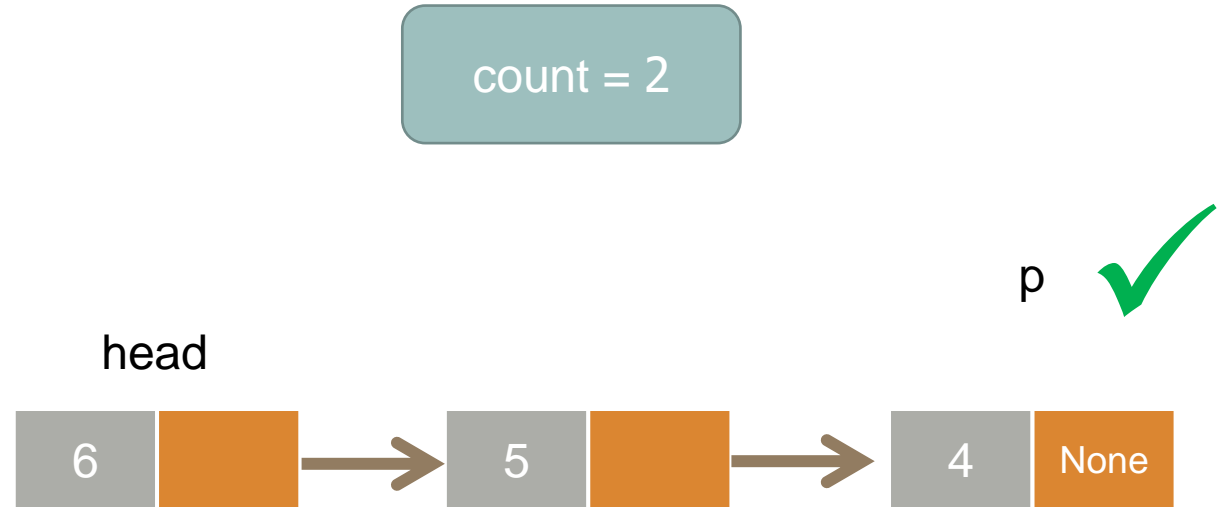


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        p=self.head
        count=0
        while p!= None:
            p=p.next
            count +=1
        return count
```



```
LL=linklist()
LL.insert_begin(4)
LL.insert_begin(5)
LL.insert_begin(6)
print(LL.length())
```

count = 2



# compute the length of the linked list

```
class Node:
    def __init__(self,data,next=None):
        self.data = data
        self.next = next
class linklist:
    def __init__(self,head=None):
        self.head=head
    def length(self):
        p=self.head
        count=0
        while p!= None:
            p=p.next
            count +=1
        return count
```



```
LL=linklist()
LL.insert_begin(4)
LL.insert_begin(5)
LL.insert_begin(6)
print(LL.length())
```

count = 2



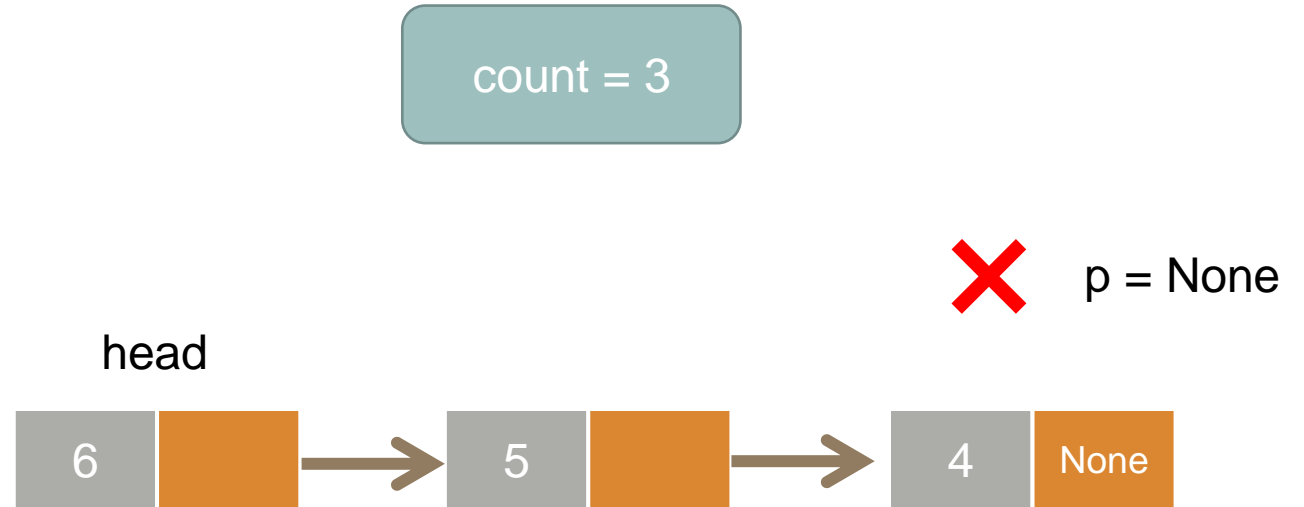


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        p=self.head
        count=0
        while p!= None:
            p=p.next
            count +=1
        return count
```



```
LL=linklist()
LL.insert_begin(4)
LL.insert_begin(5)
LL.insert_begin(6)
print(LL.length())
```

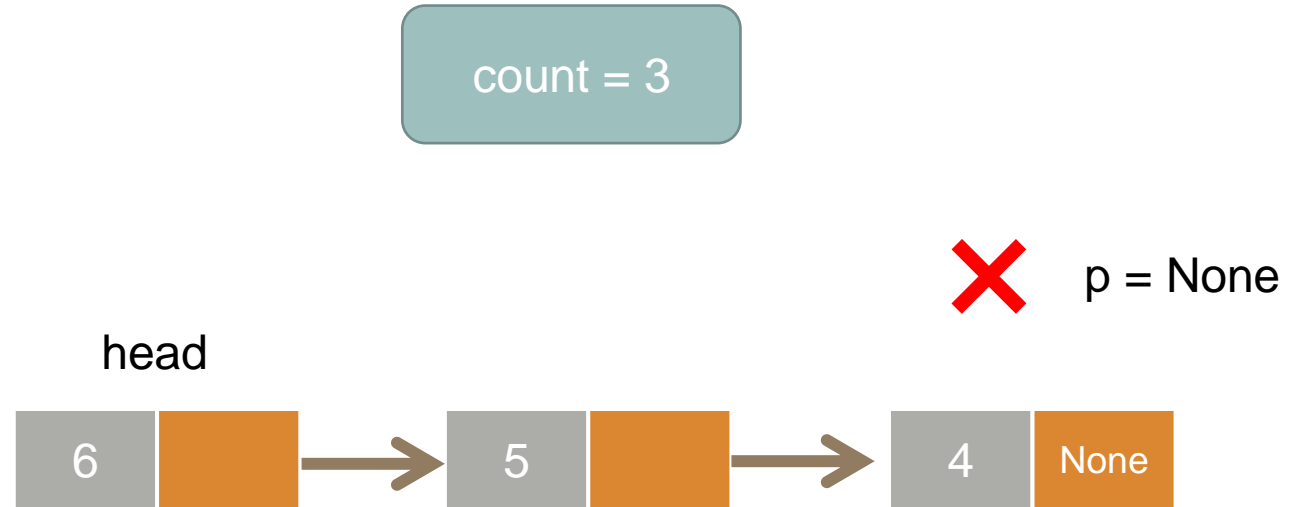


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            p=p.next
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        return count
```



```
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```



Thank you

