LEC 05

CSE 123

Linked Nodes w/Loops

Questions during Class?
Raise hand or send here

sli.do #cse123

BEFORE WE START

Talk to your neighbors:

What's the last TV show or movie you finished?

Respond on sli.do!

Instructor: Nathan Brunelle

TAs:

Cora	Chris	Crystal	Anya	Evan
Jonah	Nhan	Saachi	Ishita	Sahana
Chloe	Shiven	Nate	Renee	Yuntong
Amiya	Shashmit	Akshaya	Vihan	Shreedhaarini
Roshan	Adiyan	Nancy	Rachel	Ananya
Ryuta	Mimi	Isaac	Megan	

Lecture Outline: Announcements

- **Announcements**
- `ListNode` practice
- Iterating over `ListNodes`

Announcements

- P0 due Wednesday 10/21 at 11:59pm
- CQ0 can be scheduled 10/22-10/29
  - Book a time on Canvas
  - See Ed announcement for details
- Commentpalooza

Lecture Outline: `ListNode` practice

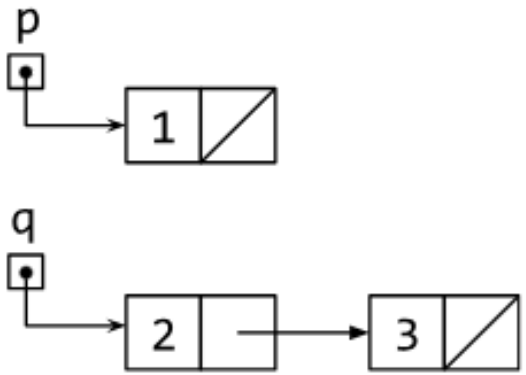
- Announcements
- **`ListNode` practice**
- Iterating over `ListNode`s



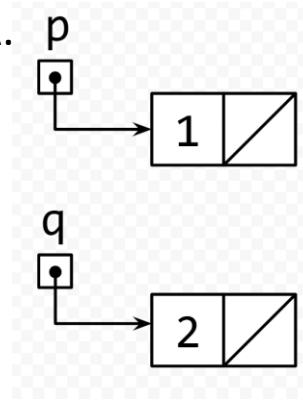
Practice : Think

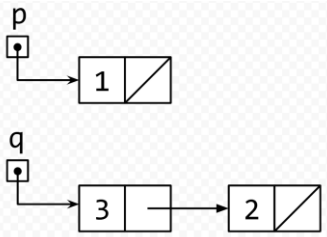
sli.do #cse123

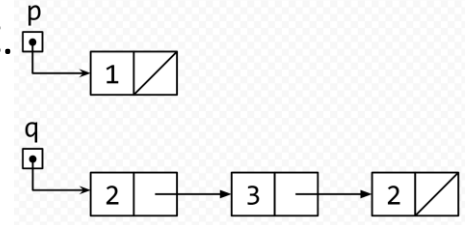
What is the result of running the code on the list shown in the picture?

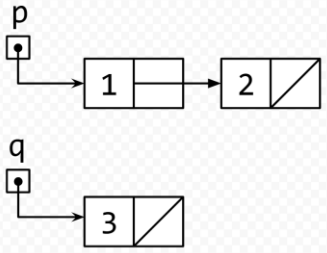



```
q.next.next = q;
q = q.next;
q.next.next = null;
```

A.


B.


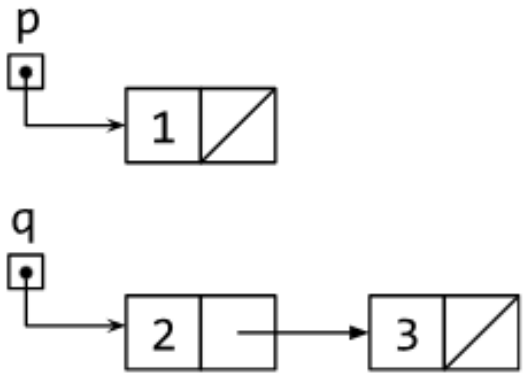
C.


D.


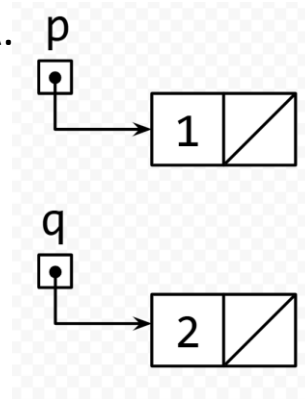
Practice : Pair

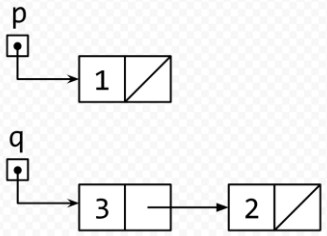
sli.do #cse123

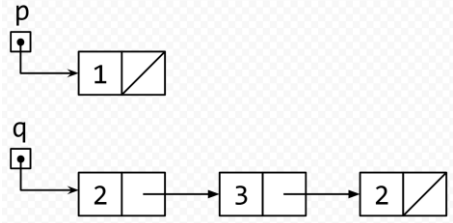
What is the result of running the code on the list shown in the picture?

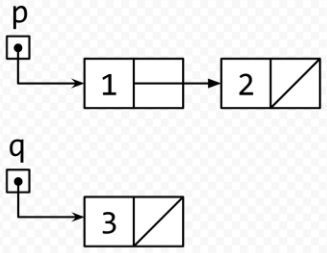



```
q.next.next = q;
q = q.next;
q.next.next = null;
```

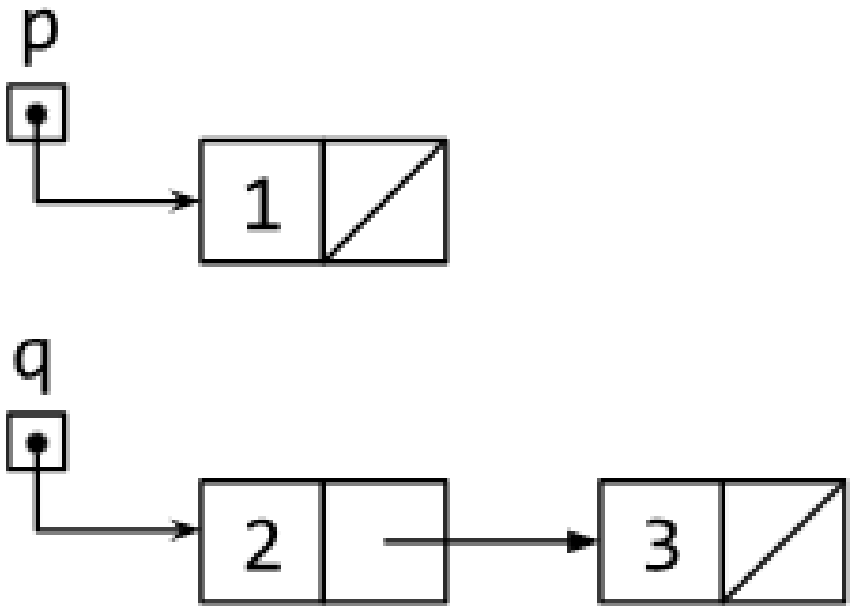
A.


B.


C.


D.


TPS: run code on example lists



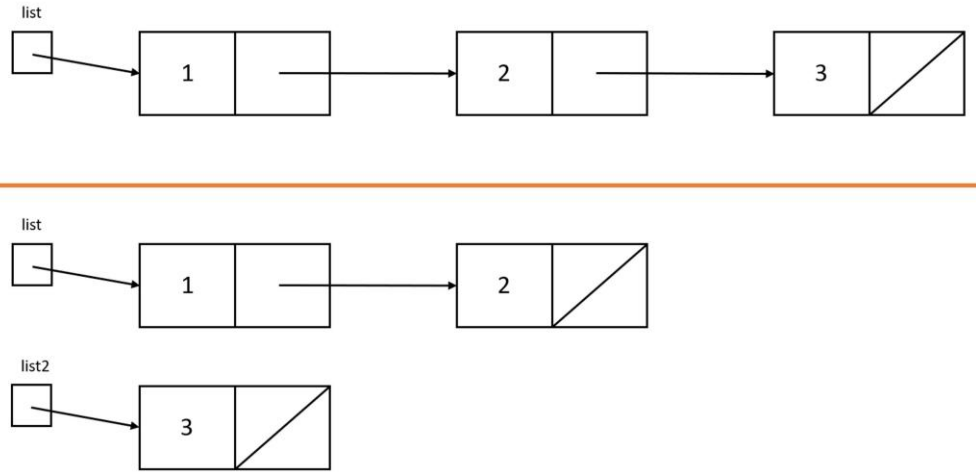

```
q.next.next = q;
q = q.next;
q.next.next = null;
```



Practice : Think

sli.do #cse123

Which code will turn the top picture into the bottom picture?



A.
```
ListNode list2 = list.next.next;
```

B.
```
list.next.next = null;
ListNode list2 = list.next.next;
```

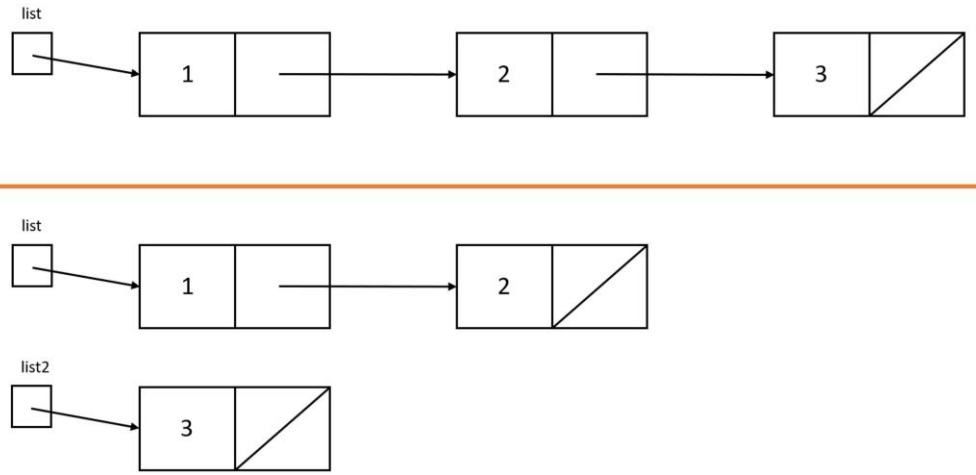
C.
```
ListNode list2 = list.next.next;
list.next.next = null;
```

D.
```
ListNode list2 = list.next;
list.next = null;
```

Practice : Pair

sli.do #cse123

Which code will turn the top picture into the bottom picture?



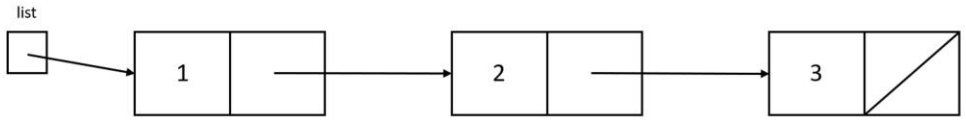
A.
```
ListNode list2 = list.next.next;
```

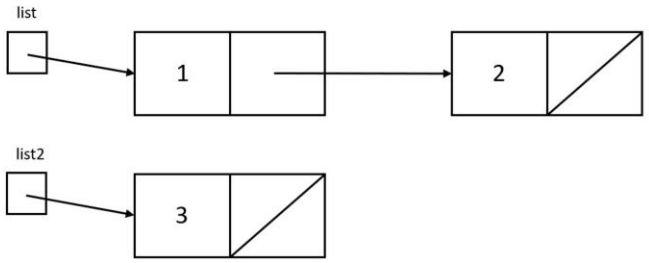
B.
```
list.next.next = null;
ListNode list2 = list.next.next;
```

C.
```
ListNode list2 = list.next.next;
list.next.next = null;
```

D.
```
ListNode list2 = list.next;
list.next = null;
```

TPS: from top pic to bottom pic





Lecture Outline: Iterating over ListNodes

- Announcements
- `ListNode` practice
- **Iterating over `ListNodes`** 

ListNode chains

- Recall the `ListNode` class:

```
public class ListNode {
    public int data;
    public ListNode next;
}
```

- How would we find the fourth value in a chain?

```
node.next.next.next.data
```



Longer `ListNode` chains

- Recall the `ListNode` class:

```
public class ListNode {
    public int data;
    public ListNode next;
}
```

- How would we find the 100th value in a chain?

```
node.next.next.next.next.next.next.next....
```



Iterating over `ListNodes`

- General pattern iteration code will follow:

```
ListNode curr = front;
while (curr != null) {
    // Do something

    curr = curr.next;
}
```