# Informatik II

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## Queue

Thomas Jürgensen

# Informatik II

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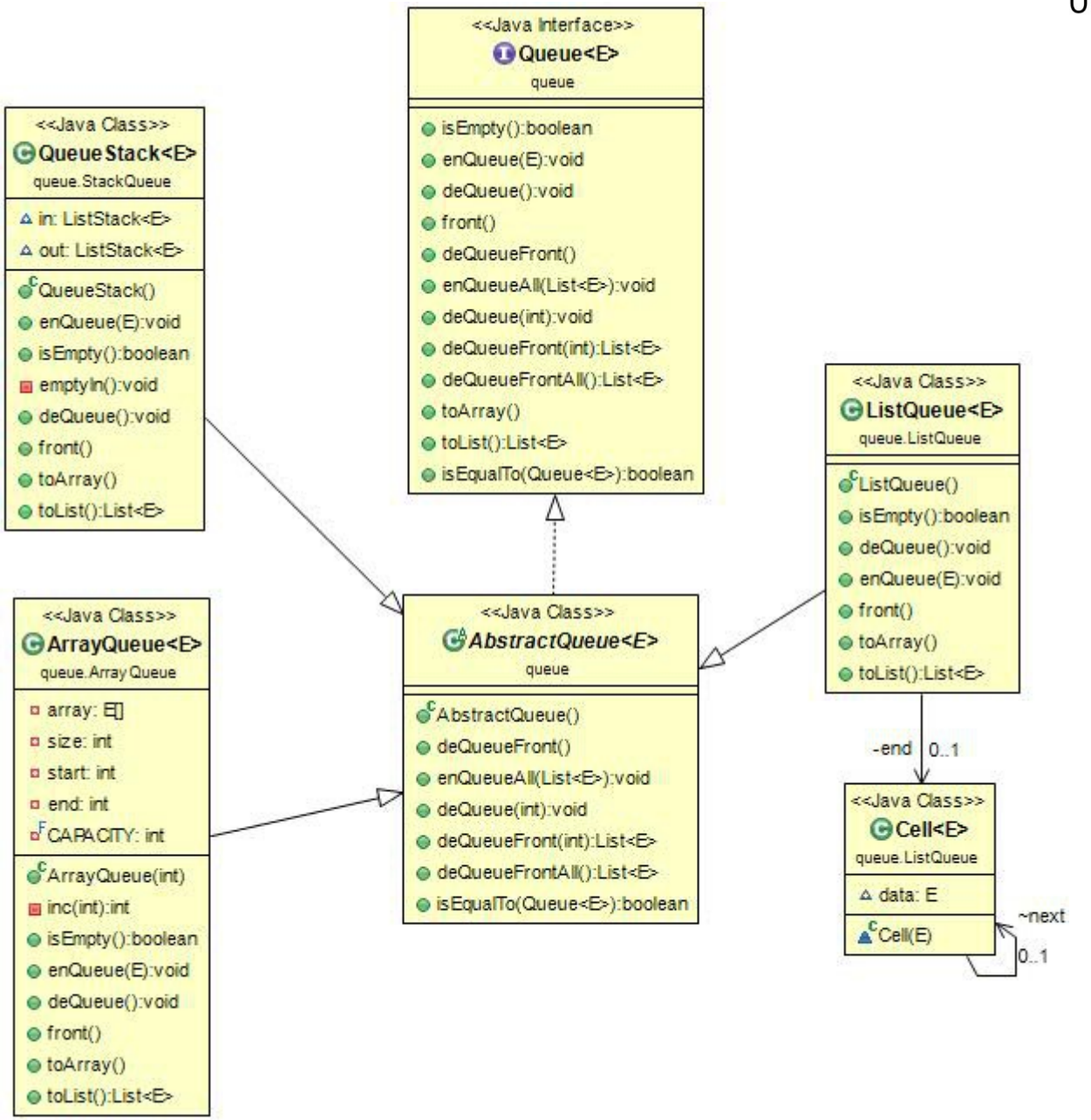

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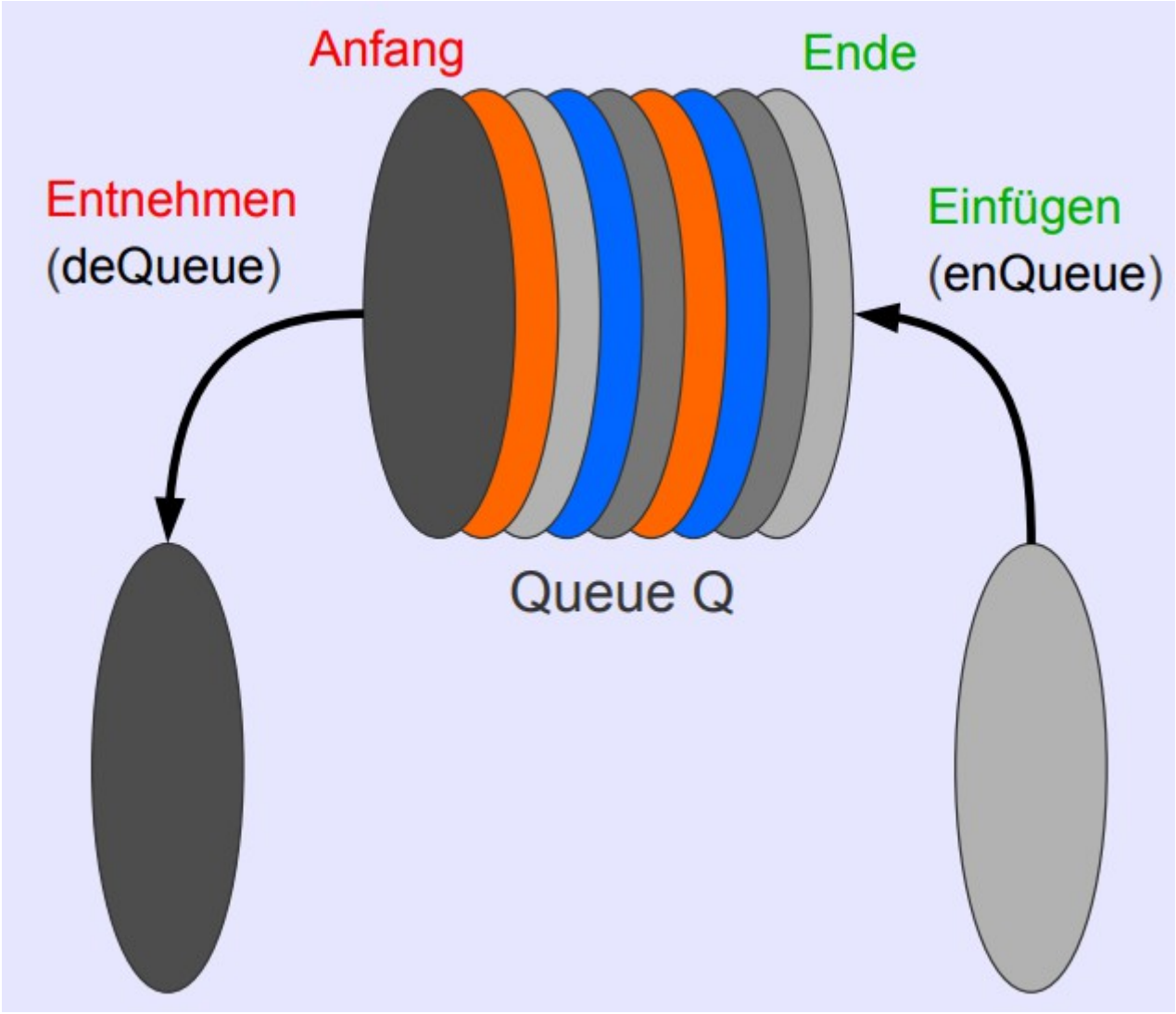
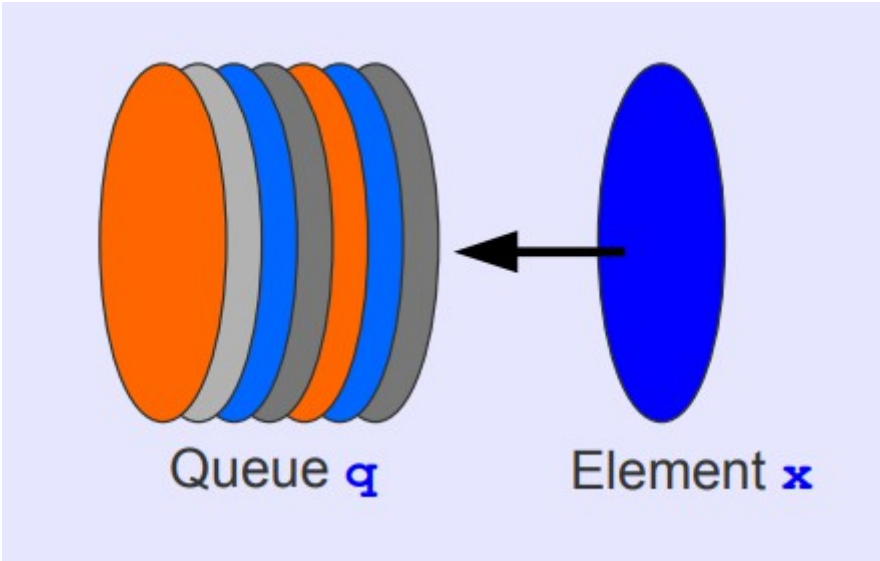
# Queue - Fifo



# enQueue

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# enQueue

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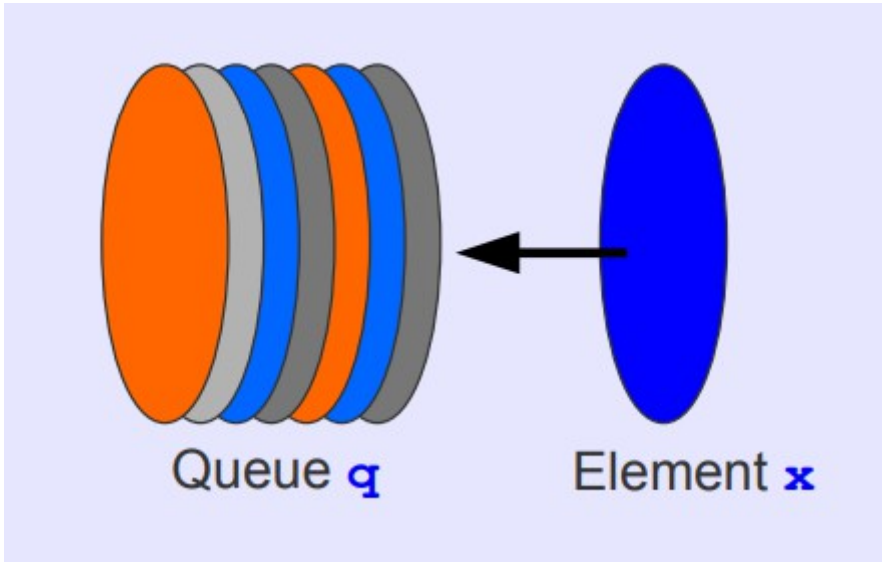
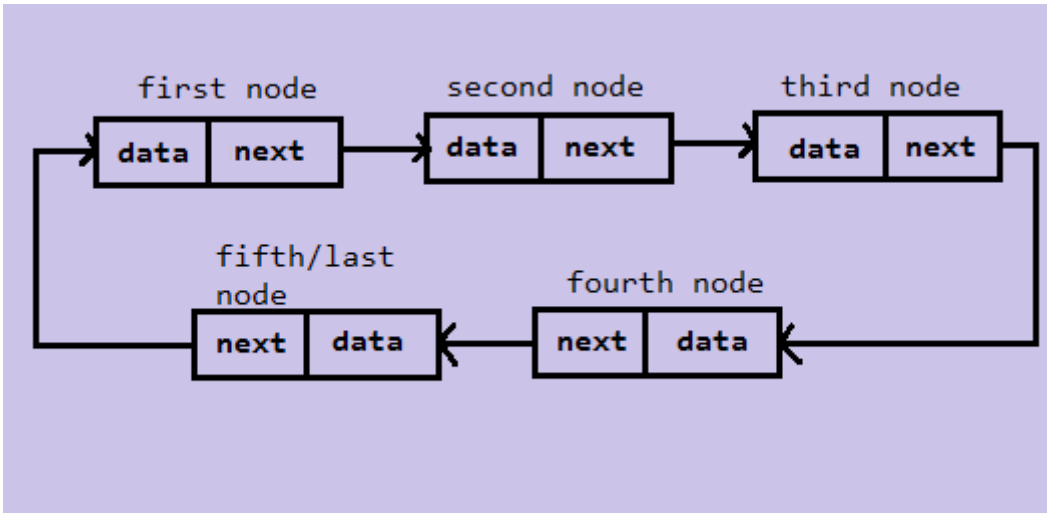



```
41      @Override
42      public void enQueue(E e) {
43          Cell<E> newCell = new Cell<E>(e);
44          if (isEmpty()) {
45              end = newCell;
46              end.next = newCell;
47          } else {
48              newCell.next = end.next;
49              end.next = newCell;
50              end = newCell;
51          }
52          return;
53
54      }
```



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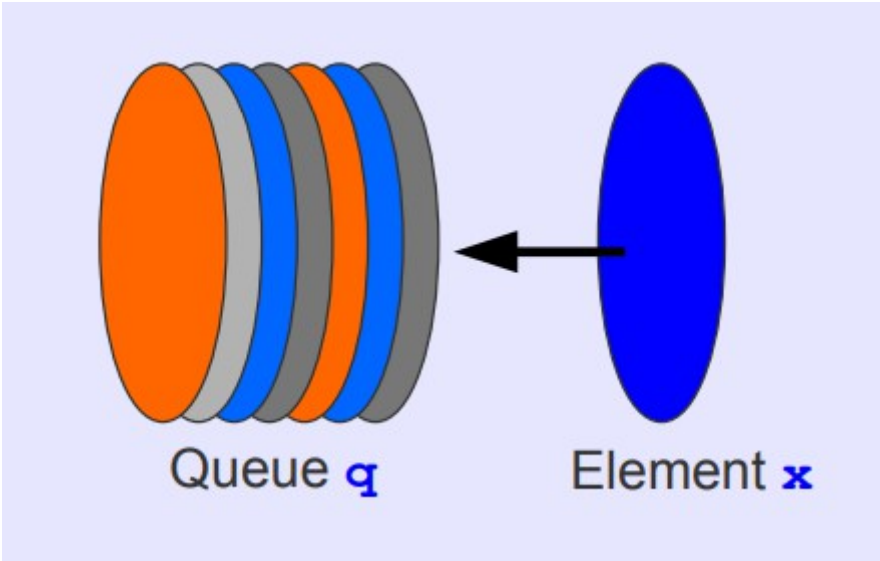
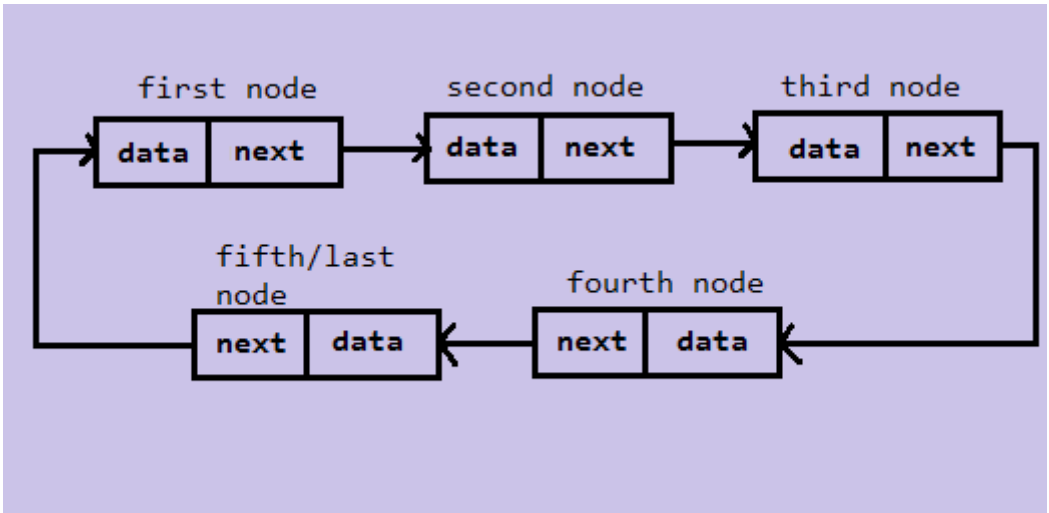
# enQueue



# enQueue

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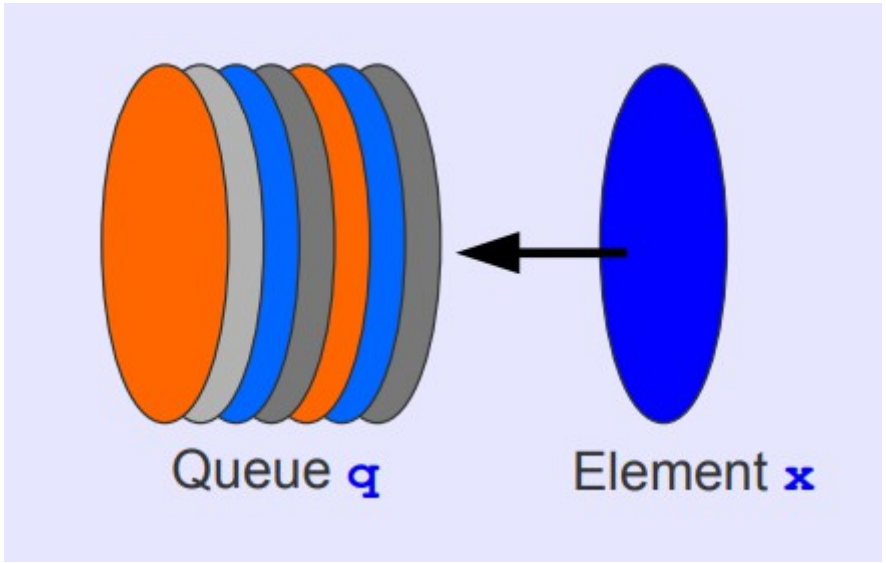
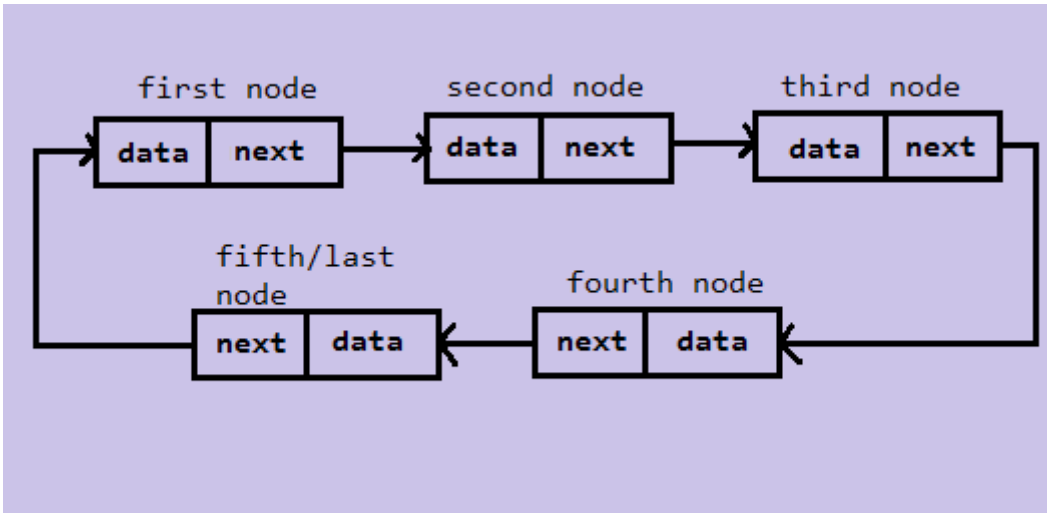



```
41      @Override
42      public void enQueue(E e) {
43          Cell<E> newCell = new Cell<E>(e);
44          if (isEmpty()) {
45              end = newCell;
46              end.next = newCell;
47          } else {
48              newCell.next = end.next;
49              end.next = newCell;
50              end = newCell;
51          }
52          return;
53
54      }
```



# deQueue

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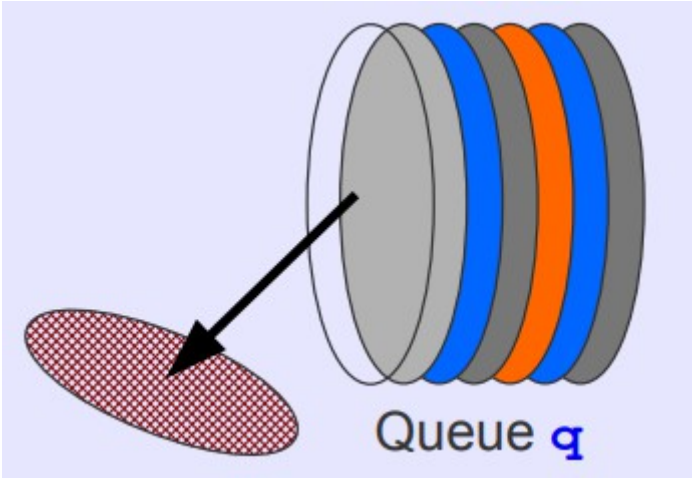

# deQueue

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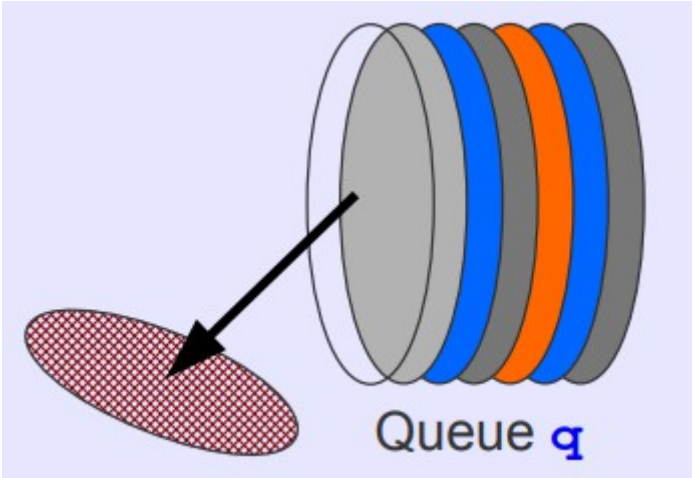


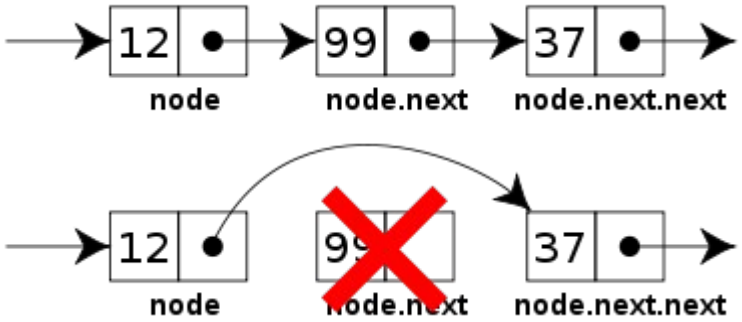

# deQueue

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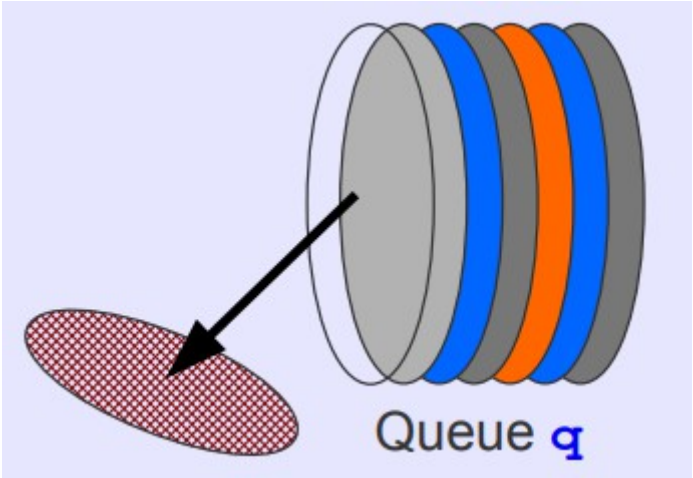


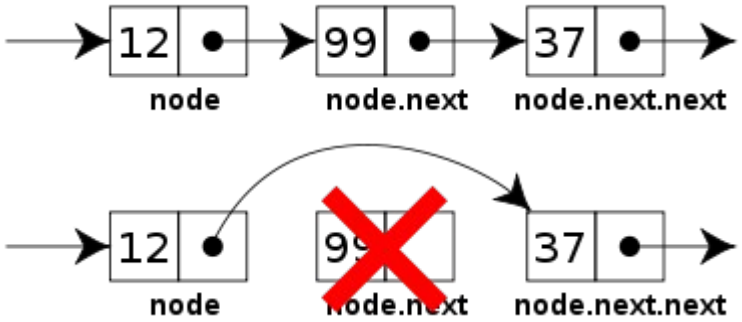


```
30    public void deQueue() {
31        if (isEmpty())
32            throw new QueueError("Queue is empty!");
33        if (end.next == end) {
34            end = null;
35        } else {
36            end.next = end.next.next;
37        }
38        return;
39    }
```

# toList

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```
59      @Override
60      public List<E> toList() {
61          ArrayList<E> list = new ArrayList<E>();
62          for (int i=start; i<=end; i++)
63          {
64              list.add(array[i]);
65          }
66          return list;
67      }
```

# toList

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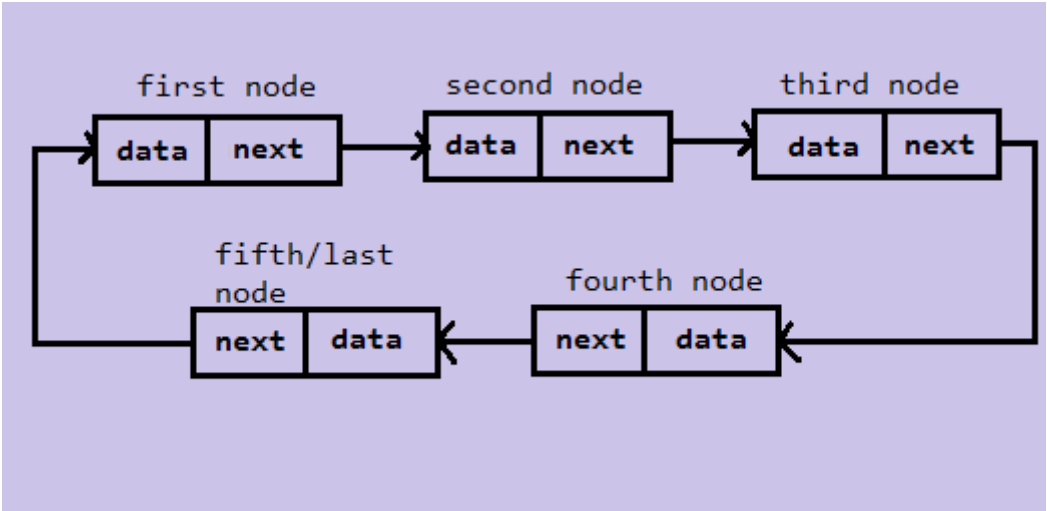

# toList

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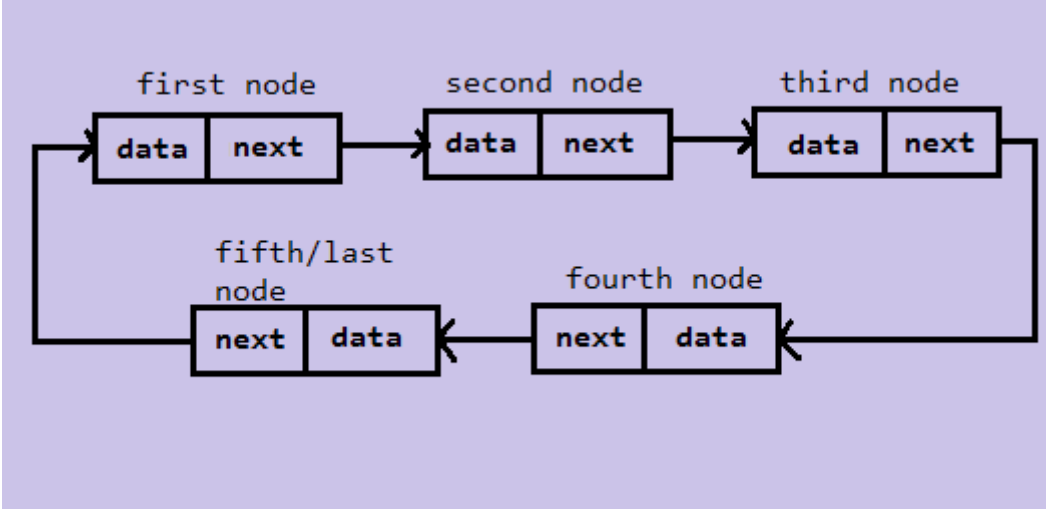
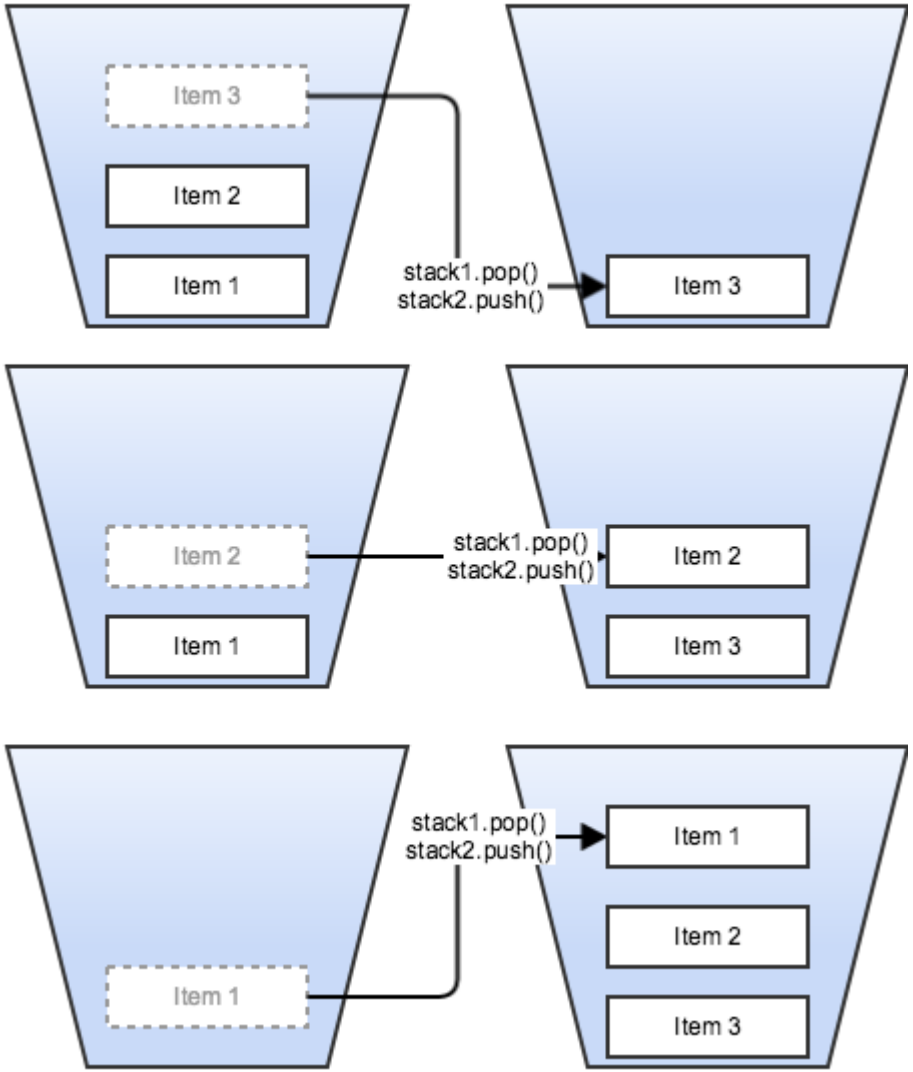



```java
@Override
public List<E> toList() {
    List<E> list = new LinkedList<E>();
    if (!isEmpty()) {
        Cell<E> tmp = end;
        while (tmp.next != end) {
            list.add(tmp.next.data);
            tmp = tmp.next;

        }
        // add last (missing) element
        list.add(tmp.next.data);
    }
    return list;
}
```

# Stack-Queue


Item 3
Item 2
Item 1
stack1.pop()
stack2.push()
Item 3
Item 2
Item 1
stack1.pop()
stack2.push()
Item 2
Item 3
Item 1
stack1.pop()
stack2.push()
Item 1
Item 2
Item 3