

## Week 7 Solutions.

Iterator needs:

next() – throw an exception if empty (NoSuchElementException), throw an exception if modified (ConcurrentModificationException)

hasNext()

remove() – doesn't need to be implemented

Main:

iterator() method

modCount ++

So overall:

```
public class main
{
    private int modCount; //set to 0 in constructor

    ... //Rest of the class data here as before
    ...
    ...
    ... //Add modCount++ to all add/remove operations

    public Iterator iterator()
    {
        return new MyIterator();
    }

    private class MyIterator implements Iterator
    {
        private int expectedModCount;
        private Node currentPos;
        private MyIterator
        {
            curPos = sentinle;
            expectedModCount = modCount;
        }

        public boolean hasNext()
        {
            return(!currentPos.getNext() == sentinle);
        }
    }
}
```

```
public Object next()
{
    if(modCount != expectedModCount)
        throw new ConcurrentModificationException();
    if(!hasNext())
        throw new NoSuchElementException();

    currentPos = currentPos.getNext();
    return currentPos.getData();
}

public void remove()
{
    throw new UnsupportedOperationException();
}
}
```