Homework 6

Due 11/12/07

5 points per problem

Chapter 9:

Exercises : 1, 3, & 4

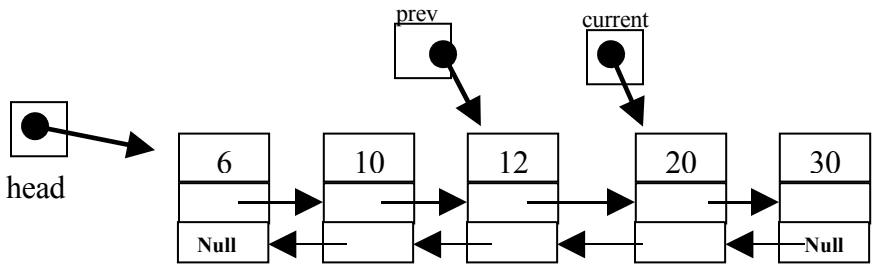
Assume the following definitions exist to define a set of "doubly-linked" nodes for the remaining problems.

```
Class Node {
        private int item;
        private Node next;
        private Node previous;

        public void setItem(int x) {
                item = x;
        }

        pubic int getItem() {
                return item;
        }

        public void setNext( Node n ) {
                next = n;
        }

        public Node getNext() {
                return next;
        }

        public Node getPrev() {
                return previous;
        }

        public void setPrev(Node n) {
                previous = n;
        }
```

}

Node head, current, prev, p, q;
int x;

Use the diagram below to aid in showing the result of executing each of the following series of commands in parts A, B, & C. Assume that we start fresh with the original diagram in each part.



a. **p = new Node();**
p.setItem(15);
p.setNext(current);
p.setPrev(prev);
prev.setNext(p);
current.setPrev(p);

b. **q = new Node();**
q.setItem(current.getItem() + 2);
q.setNext(head);
head.setPrev(q);
head = q;

c. **p = new Node();**
p.setItem(17);
(curr.getPrev()).setNext(p);

```
p.setPrev(curr.getPrev());
curr.setPrev(prev.getNext());
p.setNext(prev.getNext());
```