CS241 Homework Assignment 3

DUE: at the beginning of the class on March 10, 2005

I. Text book, page 523: [3 pts each]
   7.a, 7.c

II. What are the outputs of the following programs: [5 pts]

   ... public static void main(String[] args)
   {
      print(4);
   }

   void static print(int num)
   {
      if(num > 1)
      {
         print(num-2);
         System.out.println(num);
         print(num-1);
      }
      else
      {
         System.out.print(num);
      }
   }

III. What’s the output of the following program? You need to show the detail how
did you get the result.[4 pts each]

   ... public static void main(String[] args)
```java
System.out.println(hanoi(4, 1, 2, 3));
System.out.println(hanoi(4, 1, 2, 3));

static int hanoi(int num, int from, int help, int to)
{
    int counter = 0;
    if(num >0)
    {
        counter = counter + hanoi(num-1, from, to, help);
        counter++;
        counter = counter + hanoi(num-1, help, form, to);
    }
    return counter;
}

IV. Give the implementation of recursive delete for linked list. [10 pts] Hints: You would need an auxiliary function for delete.

class Node
{
    int value; // holds the int value of the node
    Node next; // holds the successor
}

class LinkList
{
    Node head;
    Node tail;

    // if it is deleted return true
    // return false otherwise
    public boolean delete(int item)
    {
    }
}