```
/* CMPUT 201 Lab #11:  One-Day Programming                          */
/* Due:  at the end of each lab on November 29, 2016               */
```

The following programming project is to be done in Lab #11.
You need to send your source code as a single `.c` file to your TA at the end of the lab (demoed or not).

1. You use a linked list to represent a non-negative integer, where the most significant digit comes first and each of their nodes contain a single digit. In this representation, an integer does not contain any leading zero, except the integer 0 itself.
2. Your goals:
   (a) Read from `stdin` two non-negative integers, represent each of them in a linked list. For example, `7243` is represented as "$7 \to 2 \to 4 \to 3$".
   (b) Compute the difference between the two linked lists (representing the two integers) and return the (non-negative) difference as a linked list. This should be written as a function:
   `struct node *diff(struct node *num1, struct node *num2);`
   where `num1` and `num2` are head pointers to the linked lists representing the two input integers, respectively, and the function `diff` returns the head pointer to the linked list representing the difference.
   For example, `diff((5` $\to$ `6` $\to$ `4), (7` $\to$ `2` $\to$ `4` $\to$ `3))` $= 6 \to 6 \to 7 \to 9$
   (c) **Should not** create any memory leak, i.e., if a memory unit is requested, it has to be freed before your program terminates.
   (d) **Should not** use any resources other than the textbook.
3. The struct to be used is

```
struct node{
    int digit;         /* the digit stored in the node */
    struct node *next; /* pointer to the next node     */
};
```

//End of Lab #11.