

These must be completed and shown to your lab TA by the start of your next lab.

Complete the Linked List program (available under Lab 3 on the course web page). You will need to complete the following functions:

```
// This function deletes the last element in the linked list.
// Pre-condition: The head of a linked list is provided.
// Post-condition: The last element of that linked list has been removed.
void delete_last_element( Node*& head );

// This function inserts a key after a node with a given key.
// If there is no node with the given key, no action.
// Pre-condition: The head of a linked list,
// a key to indicate where to insert,
// and a new key to insert are provided.
// Post-condition: If a node with key is found, the linked list
// contains a new node (newKey) after that node.
void insert_after( Node* head, int key, int newKey );

// This function merges two linked lists.
// Pre-condition: Two linked lists (list1 and list2) are provided.
// Post-condition: A new linked list is returned that contains the keys
// of list1 and list2, starting with the first key of list1, then the
// first key of list2, etc. When one list is exhausted, the remaining
// keys come from the other list.
// For example: [1, 2] and [3, 4, 5] would return [1, 3, 2, 4, 5]
Node* interleave( Node* list1, Node* list2 );
```

If you complete the code correctly, you should see the following output:

```
<A> List 1: [3, 2, 1]
<B> List 2: [6, 7, 8, 9, 10]
<C> List 1: [3, 2]
<D> List 1: [3]
<E> List 1: []
<F> List 1: []
<G> List 1: [11, 12]
<H> List 1: [11, 12]
<I> List 4: [11, 6, 12, 7, 8, 9, 10]
<J> List 4: [11, 12]
<K> List 4: []
```