Generic List Lab
April 5, 2016
CMSC 226

Save all of your work in your lab08 repository in your course directory.
Implement a (circular) GenericList class without templates. Write a program that tests the class by creating a GenericList of GenericLists. The inner list will be the result of reading a line from a file in the following format:

1, 20.0, 20.0, N, 30, W, 34, positionOne
2, 33.0, -200.0, S, 100, E, 10, positionTwo
etc.

The outer list will hold each line of the file as a generic list on the list.

enum ListType { INTEGER, FLOAT, CHAR, STRING, GENERIC_LIST };

```
class GenericList {
 void *data;
 ListType type;
 GenericList *prev;
 GenericList *next;
public:
 GenericList();
 ~GenericList();
 void add(int);
 void add(float);
 void add(char);
 void add(string);
 void add(GenericList*);
 ListType getType();
 void* getData();
 void remove();
 void printAll(); // prints all data
 void print(int index); // prints the data at index
};
```

Your test program should generate each inner list as it reads the file and then add it to the outer list. Once it finishes reading the file, the program should call print on the outer list and that should print the resulting file using the print() method, which traverses the list and prints the data in the list, or if the data is a GenericList, then it calls print() on the data. Printing a GenericList should result in a newline, and printing anything else should result in a comma before it, if there is data preceding it on the same line. Ultimately the output, should look identical to the input with a maximum of 2 significant digits for floating point numbers.