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// This program reads floating point data from a data file and places those
// values into the private data member called values (a floating point array)
// of the FloatList class. Those values are then printed to the screen.
// The input is done by a member function called GetList. The output
// is done by a member function called PrintList. The amount of data read in
// is stored in the private data member called length. The member function
// GetList is called first so that length can be initialized to zero.

// Michael Steele

#include <iostream>
#include <fstream>
#include <iomanip>
using namespace std;

const int MAX_LENGTH = 50;              // MAX_LENGTH contains the maximum length of
our list
class FloatList
                                        // Declares a class that contains an array of
                                                        // floating point numbers
{
public:
        void getList(ifstream& t);      // Member function that gets data from a file
        void printList() const;         // Member function that prints data from that
                                                        // file to the screen.

        FloatList();                            // constructor that sets length to 0.


private:
        int length;                                     //      Holds the number of elements in the
array
        float values[MAX_LENGTH]; //      The array of values

};

int main()
{
        ifstream tempData;     // Defines a data file

        // Fill in the code to define an object called list of the class FloatList
        FloatList list;
```

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        cout << fixed << showpoint;

        cout << setprecision(2);

        tempData.open("temperatures.txt");

        // Fill in the code that calls the getList function.
        list.getList(tempData);


        // Fill in the code that calls the printList function.
        list.printList();

        return 0;
}

FloatList::FloatList()
{
        // Fill in the code to complete this constructor that
        // sets the private data member length to 0
        length = 0;
}

// Fill in the entire code for the getList function
// The getList function reads the data values from a data file
// into the values array of the class FloatList
void FloatList::getList(ifstream& t)
{
   float temp;
   while (t.good())
   {
      t >> temp;
      values[length++] = temp;
   }


}

// Fill in the entire code for the printList function
// The printList function prints to the screen the data in
// the values array of the class FloatList
void FloatList::printList() const
{
```

```
    for (int i = 0; i < length; i++)
    {
        cout << values[i] << '\n';
    }
}
```