```cpp
////
// Name: Jeff Calderon
// Class: CS132
// Section: 33616
// Program Name: JCString
//
// Description: This is a class that turns char arrays into a string class
// called JCString. This programs reads in a file and creates JCStrings
// from the text in the file. The JCStrings are stored in vector.
// A method of the JCString class is called  which compares itself
// to other objects of the same class. This is used to alphabatize the
// vector of JCStrings. Then this is outputted to a file
// NOTE: as of now Capitials Leter will always come before lower case
// as ASCII numbers are used to compare
////

#include <iostream>
#include <fstream>
#include <vector>
#include <iomanip>
#include "JCString.h"
#include <iostream>

using namespace std;
// GLOBAL VARIABLES
char INPUT_FILE[] = "infile2.txt";
char OUTPUT_FILE[] = "outfile3.txt";

// Function prototypes
vector<JCString> vectorSort(const vector<JCString>& wordVec);
void saveToFIle(const vector<JCString>& wordVec, char* fileName, int wordPerLin);

int main()
{
    vector<JCString> words(100);        // calls default constructor 100 times
```

```
36      ifstream fin(INPUT_FILE);
37
38      // READ
39      if (fin.fail()) {
40          system("pause");
41          exit(1);
42      }
43
44      int wordCnt = 0;
45      for (wordCnt; words[wordCnt].read(fin); ++wordCnt) {       // empty loop
46      }
47
48      words.resize(wordCnt);            //shrink vector to size used
49      fin.close();
50
51      // SORT
52      vector<JCString> sortedVec = vectorSort(words);
53
54      // SAVE TO FILE
55      int wordsPerLine = 6;
56      saveToFIle(sortedVec, OUTPUT_FILE, wordsPerLine);
57
58      return 0;
59
60  }
61
62  vector<JCString> vectorSort(const vector<JCString> &wordVec)
63  {
64      bool notDone;
65      int i = 0;
66      vector<JCString> sortedVec = wordVec;
67
68      do {
69          notDone = false;
70          for (i = 0; i < sortedVec.size()-1; i++) // up to the second to last elem
```

```
71          {
72
73
74
75              //if the next one is less than it comes backwards
76              if (!sortedVec.at(i).lessThan(sortedVec.at(i+1)))// will automaticaly check the last elem
77              {
78                  JCString holder = sortedVec.at(i);
79                  sortedVec.at(i) = sortedVec.at(i + 1);
80                  sortedVec.at(i + 1) = holder;
81                  notDone = true;
82              }
83          }
84
85      } while (notDone);
86
87      return sortedVec;
88  }
89
90  //saves a JCString vector to a file
91  void saveToFIle(const vector<JCString> &wordVec, char* fileName, int wordPerLin)
92  {
93      ofstream outfile(fileName, ios::out);
94      if (!outfile)
95      {
96          cout << "ERROR READING FILE!!" << endl;
97      }
98
99      int line = 0;
100
101     // left aligning and spacing
102
103     //writing out
104     for (JCString str : wordVec)
105     {
```

```
106         outfile << left;
107         outfile << setw(13);
108         str.write(outfile);
109         line++;
110         if (line % wordPerLin == 0)// 6 words per line
111         {
112             outfile << endl;
113         }
114
115     }
116
117     outfile.close();
118
119 }
120
121
122
```