Homework 4 (due 17 October 2016)

Lab 03

42        worddata WordArray [MAXWORDS];

Describe the data structure created by the declaration on line 42.

How are worddata objects inserted in the data structure?

What are the benefits of using this type of data structure?

What are the drawbacks of using this type of data structure?
Lab 04

53      WordData * WordArray = NULL;
78      int count = 0;
79      string oneword;
81      while (input >> oneword)
82          count++;
85      Words = new WordData [count];

Describe the data structure created by the declaration on line 53.

How is this data structure modified by the code on lines 78-85?

How are WordData objects inserted in the data structure?

What are the benefits of using this type of data structure?

What are the drawbacks of using this type of data structure?
Lab 05

33     WordData * W = NULL;
54     Words = new WordData [MINWORDS];
55     int size = MINWORDS;
56     int count = 0;
57     string aword;
58     while (input >> aword)
59     {
60         if (count >= size)
61             { cout << "Expanding array; count = " << count << "\n";
62                 WordData * temp = new WordData [size + BLOCKSIZE];
63                 for (int i = 0; i < size; i++)
64                     temp[i] = Words[i];
65                 delete [] Words;
66                 Words = temp;
67                 size += BLOCKSIZE;
68             }
69             Words[count].SetWord (aword);
70             count++;
71     }

Describe the data structure created by the declaration on line 33.

How is this data structure modified by the code on lines 54-78?

How are WordData objects inserted in the data structure?

What are the benefits of using this type of data structure?

What are the drawbacks of using this type of data structure?
Lab 07

22 vector <WordData> words;

Describe the data structure created by the declaration on line 22.

How are WordData objects inserted in the data structure?

If 11 words are inserted in the data structure, how many times will the default constructor for WordData be called? The copy constructor? The destructor?

What are the benefits of using this type of data structure?

What are the drawbacks of using this type of data structure?