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1  /*
2  * Class name: Word.h
3  * Class description: Allows the use of strings as values for the BSTree binary search tree.
4  *
5  * Programmer: Chad Philip Johnson
6  * Date Created: Friday, April 26th, 2013
7  * Last Date Modified: Thursday, May 09th, 2013
8  *
9  * Sources Used:
10 *     N/A
11 */
12
13 #include <string>
14 #include <iostream>
15
16 using namespace std;
17
18 #ifndef WORD_H
19 #define WORD_H
20
21 class Word
22 {
23     public:
24         /**
25          * Default constructor for the Word class. Set count to 1.
26          */
27         Word();
28
29         /**
30          * Overloaded constructor for the Word class. Set count to 1 and assign the passed value to
31          * the string variable representing the word value of the object.
32          * @param strWord The string value to be held by the object.
33          */
34         Word( string strWord );
35
36         /**
37          * Destructor for the Word class. Currently unused.
38          */
39         virtual ~Word();
40
41         /**
42          * Overloaded output operator converts the word to uppercase (if not already uppercase) and feeds
43          * it to an output stream.
44          * @param objostreamOut The output stream to receive the value.
45          * @param objWordToOutput The word object to have its value sent to the output stream.
46          */
47         friend ostream& operator << ( ostream& objostreamOut, const Word*& objWordToOutput );
48
49         /**
50          * Overloaded equal comparison operator checks whether two Word objects contain the same values.

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51     * @param objWordCompare The Word object value to be compared with the current object value.
52     */
53     bool operator == ( Word& objWordCompare );
54
55     /**
56     * Overloaded less than operator checks whether the right object value is greater than the current object value.
57     * @param objWordCompare The Word object value to be compared with the current object value.
58     */
59     bool operator < ( Word& objWordCompare );
60
61     /**
62     * Overloaded greater than operator checks whether the right object is less than the current object value.
63     * @param objWordCompare The Word object value to be compared with the current object value.
64     */
65     bool operator > ( Word& objWordCompare );
66
67     /**
68     * Return the value of the word contained within the Word object.
69     * @return String value of the word.
70     */
71     string          getWord() const;
72
73     /**
74     * Return the value of the word contained within the Word object (has the same use as the getWord function but
75     *      is a generic function name for Word class compatability with templated trees).
76     * @return String value of the word.
77     */
78     string          getValue() const;
79
80     /**
81     * Change the value of the word contained within the Word object.
82     * @param strWord The new value of the word.
83     */
84     void            setWord( string strWord );
85
86     /**
87     * Get the number of times the word value has been added to the tree.
88     * @return The unsigned int value of the number of times the word has been added to the tree.
89     */
90     unsigned int    getCount() const;
91
92     /**
93     * Increase the count by one (count represents the number of times the word value of the object has been added to a tree).
94     */
95     void            incrementCount();
96
97 private:
98     string strWord;
99     unsigned int uintCount;
100 };

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101
102 #endif
103
```