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1 /*****
2 * PROGRAMMER : Ali Eshghi & Ivan Ma
3 * STUDENT ID : 1112261 & 1114811
4 * CLASS      : CS1B
5 * SECTION    : MW 7:30pm
6 * Assign #1  : Functions and arrays
7 * DUE DATE   : 19 September 2019
8 *****/
9 #include<iostream>
10 #include<iomanip>
11 #include<string>
12 using namespace std;
13
14 int main()
15 {
16
17     /*****
18     * CONSTANTS
19     * -----
20     * OUTPUT - USED FOR CLASS HEADING
21     * -----
22     * PROGRAMMER : Programmer's Name
23     * CLASS      : Student's Course
24     * SECTION    : Class Days and Time
25     * LAB_NUM    : Lab Number (specific to this lab)
26     * LAB_NAME   : Title of the Lab
27     * AS_TYPE    : Type of the assignment (Lab or Assignment)
28     *****/
29     const string PROGRAMMER = "Ali Eshghi & Ivan Ma";
30     const string CLASS      = "CS1B";
31     const string SECTION    = "MW: 7:30p - 9:50p";
32     const int    LAB_NUM    = 4;
33     const string LAB_NAME   = "Lab 4 : Introduction to array";
34
35
36     cout << left;
37     cout << "*****" << endl;
38     cout << "* PROGRAMMED BY : " << PROGRAMMER << endl;
39     cout << "* " << setw(14) << "CLASS" << ": " << CLASS << endl;
40     cout << "* " << setw(14) << "SECTION" << ": " << SECTION << endl;
41     cout << "* LAB #" << setw(9) << LAB_NUM << ": " << LAB_NAME << endl;
42     cout << "*****" << endl << endl;
43     cout << right;
44
45
46     /*****
47     * VARIABLES *
48     *****/
49     const int AR_SIZE = 10; // PROCESS - const for the number elements of the array
50
51     int index; // PROCESS - used in the loops to put variables in array
52     int nameCount; // Process - used for the count of instances
53
54     string nameAr[AR_SIZE]; // IN & PROCESS - array of the names, user input
55     string searchName; // IN & PROCESS - name for the search, user input
56
57
58
59     /*****

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60  * INPUT - begin to prompt ask the user for the names that are going to
61  *         be in the array and initialize the array based on the user input
62  *         using a for loop.
63  *****/
64
65  for(index = 0; index < AR_SIZE; index++) //gets the names from the user
66  {
67      cout << "Enter name #" << index+1 << ": ";
68      getline(cin,nameAr[index]);
69  }//end of for loop
70
71  /*****
72  * PROCESS & OUTPUT - the program asks the user what name's instances the
73  *                     user is looking for and outputs the name searched and
74  *                     the number of the instances of the name in the list.
75  *****/
76  *
77  * the program gets the user input and based on the
78  * user's input it search for the name in the array and
79  * if the program finds it it outputs the name and the
80  * number of instances, but if the searched name wasn't
81  * in the list, the program outputs that the program
82  * couldn't find the name.
83  *****/
84  cout << endl << endl;
85  cout << "Who do you want to search for (Enter done to exit)? ";
86  getline(cin,searchName);
87
88
89  while(searchName != "done")//using the while loop because we never know
90  {
91      //when the search ends.
92      nameCount = 0;
93
94      for (index = 0; index < AR_SIZE; index++)//for loop to search the
95      {
96          //the name in the array.
97          if(searchName == nameAr[index])//if the name found it increments
98          {
99              //the instances.
100              nameCount++;
101          }// end of if statement
102      }//end of while loop
103
104      if (nameCount != 0)//if there are any instances,
105      {
106          // it follows the statement below.
107          if (nameCount > 1)//if the instances are more than one,
108          {
109              //the statement below occurs.
110              cout << "There are " << nameCount << " instances of the name "
111                  << searchName << "." << endl << endl;
112          }//end of if statement
113
114          if (nameCount == 1)//if there is only instances, statement below occurs.
115          {
116              cout << "There is one instance of the name " << searchName << "."
117                  << endl << endl;
118          }//end of if statement
119      }
120      else//else statement if the name isn't in the list.
121      {
122          cout << searchName << "'s name does not exist in this list." << endl <<
123          endl;

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118     }//end of else statement.
119
120
121
122     //prompts the user for another input(change the input for the loop).
123     cout << "Who do you want to search for (Enter done to exit)? ";
124     getline(cin,searchName);
125
126
127 }
128
129 //output to shows the user the program ended perfectly.
130 cout << "\nThank you for using my program.";
131
132 return 0;
133
134 }
135
136
```