

```
1 *****
2 *   PROGRAMMED BY : Andrew Gharios
3 *   STUDENT ID    : 1449366
4 *   CLASS         : M-Th 5-7:20p
5 *   LAB #4        : Introduction to Arrays
6 *****
7 Enter name #1: Joe
8 Enter name #2: Sally
9 Enter name #3: Joe
10 Enter name #4: Sue
11 Enter name #5: Sally
12 Enter name #6: Adam
13 Enter name #7: Joe
14 Enter name #8: Adam
15 Enter name #9: Adam
16 Enter name #10: Joe
17
18 Who do you want to search for (enter done to exit)? Joe
19 There are 4 instances of the name Joe.
20
21 Who do you want to search for (enter done to exit)? Sally
22 There are 2 instances of the name Sally.
23
24 Who do you want to search for (enter done to exit)? Adam
25 There are 3 instances of the name Adam.
26
27 Who do you want to search for (enter done to exit)? Sue
28 There is one instances of the name Sue.
29
30 Who do you want to search for (enter done to exit)? John
31 John does not exist in the list
32
33 Who do you want to search for (enter done to exit)? done
34
35 Thank you for using my program.
```

```

1  #include <iostream>
2  #include <iomanip>
3  #include <string>
4  using namespace std;
5
6  /
    *****
    **
7  * PrintHeaderFile
8  *   This function will output the header information
9  *
10 *****
    /
11 void PrintHeaderFile(ostream& output,      // IN - output datatype.
12                      string asName,        // IN - assignment name
13                      int asNum,           // IN - assignment number
14                      string studentName,   // IN - student's name
15                      string classInfo,     // IN - class that is being taken
16                      char asType,         // IN - assignment type
17                      long long studentID); // IN - student ID
18
19
20 /
    *****
    ***
21 * Introduction to Arrays
22 * -----
    -
23 * This program will read in a list of 10 names and store them in an array.
24 * Then give a menu to the user to search for specific names, and will output
25 * the number of instances for each name until user inputs done.
26 * -----
    -
27 * INPUT:
28 * nameInp   - Name to search for.
29 *
30 * OUTPUT:
31 * instances - Number of names in the list.
32 *****
    */
33 int main()
34 {
35     /
        *****
        ***
36     * CONSTANTS
37     *
        -----

```

```
-
38  * OUTPUT - USED FOR CLASS HEADING
39  *
-----
-
40  * PROGRAMMER : Programmer's Name
41  * CLASS      : Student's Course
42  * SECTION    : Class Days and Times
43  * LAB_NUM     : Lab Number (specific to this lab)
44  * LAB_NAME    : Title of the Lab
45  *
-----
-
46  * AR_SIZE     : Array size.
47  *****
/
48
49  const string AS_NAME      = "Introduction to Arrays";
50  const int    AS_NUM      = 4;
51  const string STUDENT_NAME = "Andrew Gharios";
52  const string CLASS_INFO  = "M-Th 5-7:20p";
53  const char   AS_TYPE     = 'L';
54  const long long STUDENT_ID = 1449366;
55
56  const int     AR_SIZE     = 10;
57
58  string namesAr[AR_SIZE]; // IN & CALC - Array of names.
59  int    index;           // CALC      - Index for Array manipulation.
60  int    instances;       // CALC & OUT - Instances accumulator.
61  string nameInp;         // IN & CALC - Name to search for.
62
63
64
65  PrintHeaderFile(cout, AS_NAME, AS_NUM, STUDENT_NAME, CLASS_INFO,
66                  AS_TYPE, STUDENT_ID);
67
68  for (index = 0; index < AR_SIZE; index++)
69  {
70      cout << "Enter name #" << index + 1 << ": ";
71      getline(cin, namesAr[index]);
72  }
73  cout << endl;
74
75  cout << "Who do you want to search for (enter done to exit)? ";
76  getline(cin, nameInp);
77
78  while (nameInp != "done")
79  {
80      instances = 0;
```

```
81
82     for (index = 0; index < AR_SIZE; index++)
83     {
84         if (namesAr[index] == nameInp)
85         {
86             instances++;
87         }
88     }
89
90
91     if (instances == 0)
92     {
93         cout << nameInp << " does not exist in the list \n\n";
94     }
95     else if (instances == 1)
96     {
97         cout << "There is one instances of the name " << nameInp << ".";
98         cout << endl << endl;
99     }
100
101     else
102     {
103         cout << "There are " << instances << " instances of the name " <<
104             nameInp << ".";
105         cout << endl << endl;
106     }
107
108     cout << "Who do you want to search for (enter done to exit)? ";
109     getline(cin, nameInp);
110
111     }
112
113     cout << endl;
114     cout << "Thank you for using my program.";
115
116     return 0;
117 }
118 /
119     *****
120     **
121     * PrintHeaderFile
122     * This function will output the header information
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125 *          asName: The name of the assignment given in the course
126 *          asNum: The number of the assignment given in the course
127 *          studentName: The name of the student writing the code
128 *          classInfo: The course name, date, and time of the class
129 *          asType: Will either output as a lab or an assignment
130 *          studentID: The Identification Number of the student
131
132 *****
133 /
134 void PrintHeaderFile(ostream& output,          // IN - output datatype.
135                     string asName,            // IN - assignment name
136                     int asNum,                // IN - assignment number
137                     string studentName,       // IN - student's name
138                     string classInfo,         // IN - class that is being taken
139                     char asType,              // IN - assignment type
140                     long long studentID)      // IN - student ID
141 {
142     output << left;
143     output << "*****"
144         \n";
145     output << "*" PROGRAMMED BY : " << studentName << endl;
146     output << "*" " << setw(14) << "STUDENT ID " << ": " << studentID <<
147         endl;
148     output << "*" " << setw(14) << "CLASS " << ": " << classInfo << endl;
149     output << "*" ";
150
151     // PROCESSING - This will adjust setws and format appropriately based
152     // on if this is a lab 'L' or assignment
153
154     if (toupper(asType) == 'L')
155     {
156         output << "LAB #" << setw(9);
157     }
158     else
159     {
160         output << "ASSIGNMENT #" << setw(2);
161     }
162     output << asNum << ": " << asName << endl;
163     output <<
164         "*****";
165     output << right << endl;
166
167     return;
168 }

```