```cpp
 1 /**********************************************
 2  * PROGRAMMER : Ali Eshghi & Jonathan Aguirre
 3  * STUDENT ID : 1112261 & 1094753
 4  * CLASS      : CS1B
 5  * SECTION    : MW 7:30pm
 6  * LAB #6     : Structs
 7  * DUE DATE   : 1 October 2019
 8  **********************************************/
 9 #include "Myheader.h"
10
11
12 int main()
13 {
14     /****************************************************
15      * CONSTANTS
16      * ------------------------------------------------
17      * OUTPUT - USED FOR CLASS HEADING
18      * ------------------------------------------------
19      * PROGRAMMER  : Programmer's Name
20      * CLASS       : Student's Course
21      * SECTION     : Class Days and Time
22      * LAB_NUM     : Lab Number (specific to this lab)
23      * LAB_NAME    : Title of the Assignment
24      ****************************************************/
25     const string PROGRAMMER = "Ali Eshghi & Jonathan Aguirre";
26     const string CLASS      = "CS1B";
27     const string SECTION= "MW: 7:30p - 9:50p";
28     const int    ASSIGN_NUM = 6;
29     const string ASSIGN_NAME= "Structs";
30
31     /*************
32      * VARIABLES *
33      *************/
34
35     const int AR_SIZE = 10;  //PROCESS - used for size of arrays.
36     information personalData[AR_SIZE];
37
38     ofstream outFile ;        //OUTPUT  - used to save the output.
39     ifstream inFile;       //INPUT   - gives the data to program.
40     string   inFileName;  //INPUT   - user input for the infile
   name.
41     string   outFileName;     //INPUT   - user input for the
   outfile name.
42     string   header;        //OUTPUT  - saves the header file and
   outputs it.
```

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43      int  option;        //IN AND PROCESS – user input for the menu
  option.
44      int  balanceIndex;     //PROCESS – used for the balance search.
45      float    sumOrAvg;         //PROCESS – used for getting the sum
  or average.
46      int       nameIndex;        //PROCESS – used for searching the
  name.
47      string nameAr[AR_SIZE];   //PROCESS – stores names from the
  input file.
48      double totalBalance;       //CALC & OUT – total balance of all
  names found
49
50      /*****************
51      * INITIALIZATIONS *
52      *****************/
53      totalBalance = 0;
54
55      //the string type variable named "header" saves the header
56      //file as a string inside itself, then outputs that.
57      header = PrintHeader(PROGRAMMER, CLASS, SECTION, ASSIGN_NUM,
  ASSIGN_NAME);
58      cout    << header;
59      outFile << header;
60
61      //the program prompts the user for the input file and output
  file names
62      //and then save them as a string and use that to open the file
  with the
63      //name that the user inputs.
64      cout << left;
65      cout << setw(40) << "What input file would you like to use?";
66      getline(cin,inFileName);
67      inFile.open(inFileName.c_str());
68
69      cout << setw(40) << "What output file would you like to use?";
70      getline(cin,outFileName);
71      outFile.open(outFileName.c_str());
72
73      //The "Input" function gets the data from the input file named
  by
74      //the user and puts them in three parallel arrays to be used in
75      //the program.
76      Input(inFile, AR_SIZE, personalData);
77
78
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79      /
   *****************************************************************************
   *******
80      * PROCESS & OUTPUT — Open output file and outputs the data
   based on the
81      *                 options that the user inputed in the
   program.
82
   *****************************************************************************
   ******/
83
84      //The program shows the menu option to the user and prompts the
85      //user to which option the user would like to use.
86      cout << endl;
87      cout << "MENU OPTIONS" << endl                     << endl;
88      cout << "1 — Find the larger balance"              << endl;
89      cout << "2 — Find the smaller balance"             << endl;
90      cout << "3 — Obtain sum of all balances"           << endl;
91      cout << "4 — Obtain the average of all balances" << endl;
92      cout << "5 — Find Person"                          << endl;
93      cout << "0 — Exit"                                 << endl;
94
95      cout << "Enter an option (0 to exit) : ";
96      cin  >> option;
97
98      /
   *****************************************************************************
   *******
99      * PROCESS — Begins to use if and else statement based on the
   user input for
100     *          the "option" and chooses the right function to do
   the work.
101
   *****************************************************************************
   ******/
102
103     while (option != 0 && nameIndex != 12)//While loop that
   continues to run the program
104     {                      //until the user inputs "0" as an option.
105
106         if (option == 1 || option == 2)//If statement for the first
   two
107         {                              //options, because they are
   in same
108                                        //functions.
```

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109
110              //This function gets the index of the larger balance
111              //or the smaller balance from the array and returns it
112              // to the variable named "balanceIndex".
113              balanceIndex = SearchBalance(personalData, option,
    AR_SIZE);
114
115         }//End of the if statement for the first two options
116
117         else if (option == 3 || option == 4)//If statement for the
    second
118         {                                    //two options because
    they are
119                                              //in the same function.
120
121              //This function gets the sum or the average of all
    balances
122              // and returns the value to the variable named
    "sumOrAvg".
123              sumOrAvg = SumOrAvg(personalData, option, AR_SIZE);
124
125         }//End of if statement for the second two options
126
127         else if (option == 5)//If statement for the last option
128         {
129              //This function ask the user for who is the user is
    searching for
130              //from the list, then searches for the name in the list
    and if the
131              //name was found, it passes the name's index from the
    array to the
132              //variable named "nameIndex" and prints out "found", if
    the name
133              //doesn't exists in the list, then it prints out the
    name and
134              //"was not found".
135
136              while(nameIndex != 12)
137              {
138                   nameIndex = SearchName(personalData,AR_SIZE);
139              }
140              if (nameIndex != 11)
141              {
142                   totalBalance += personalData[nameIndex].balance;
143              }
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144          }//End of if statement for the last option
145
146          /
   **********************************************************************
   ***
147          * OUTPUT - This function outputs the result in the output
   file.
148
   **********************************************************************
   **/
149
150          //This function outputs all the data acquired from the
   arrays by
151          //the user from the menu to an output file.
152          FileOutput(outFile, personalData,option, balanceIndex,
   sumOrAvg,
153                     nameIndex);
154
155          //The program shows the menu again and prompts the user
156          //to change the option for the while loop.
157          if (nameIndex != 12)
158          {
159              cout << endl;
160              cout << "MENU OPTIONS" << endl              <<
   endl;
161              cout << "1 - Find the larger balance"        <<
   endl;
162              cout << "2 - Find the smaller balance"       <<
   endl;
163              cout << "3 - Obtain sum of all balances"      <<
   endl;
164              cout << "4 - Obtain the average of all balances" <<
   endl;
165              cout << "5 - Find Person"                    <<
   endl;
166              cout << "0 - Exit"                           <<
   endl;
167
168              cout << "Enter an option (0 to exit) : ";
169              cin  >> option;
170          }
171      }
172
173      //This message is shown to show the user that the program is
   done
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174      //completely and it is terminated.
175
176      outFile << left;
177      outFile << fixed << setprecision(2);
178      outFile << "\nSum of Balances for all persons searched for (and
   found) :\n";
179      outFile << setw(10) << "$" << totalBalance << endl << endl;
180      outFile << right;
181      outFile << setprecision(6);
182      outFile.unsetf(ios::fixed);
183
184      cout << "\n\nThank you for using my program.";
185      cout << right;
186
187
188      //These are for closing the files because the program has ended
189      inFile.close();
190      outFile.close();
191
192      //Returning "0" because of the int main.
193      return 0;
194
195 }
196
```