```cpp
/*********************************************
 * PROGRAMMER : Ali Eshghi
 * STUDENT ID : 1112261
 * CLASS      : CS1B
 * SECTION    : MW 7:30pm
 * Assign #1  : Functions and arrays
 * DUE DATE   : 19 September 2019
 *********************************************/
#include "MyHeader.h"


int main()
{
    /*************************************************
    * CONSTANTS
    * -----------------------------------------------
    * OUTPUT - USED FOR CLASS HEADING
    * -----------------------------------------------
    * PROGRAMMER  : Programmer's Name
    * CLASS       : Student's Course
    * SECTION     : Class Days and Time
    * LAB_NUM     : Lab Number (specific to this lab)
    * LAB_NAME    : Title of the Assignment
    *************************************************/
    const string PROGRAMMER = "Ali Eshghi";
    const string CLASS      = "CS1B";
    const string SECTION= "MW: 7:30p - 9:50p";
    const int  ASSIGN_NUM   = 1;
    const string ASSIGN_NAME= "Functions and Arrays";

    /*************
     * VARIABLES *
     *************/

    const int AR_SIZE = 10;  //PROCESS - used for size of arrays.

    ofstream outFile ;        //OUTPUT  - used to save the output.
    ifstream inFile;      //INPUT   - gives the data to program.
    string   inFileName;  //INPUT   - user input for the infile name.
    string   outFileName;     //INPUT   - user input for the outfile name.
    string   header;      //OUTPUT  - saves the header file and outputs it.
    int  option;      //IN AND PROCESS - user input for the menu option.
    int  balanceIndex;    //PROCESS - used for the balance search.
    float    sumOrAvg;        //PROCESS - used for getting the sum or average.
    int      nameIndex;       //PROCESS - used for searching the name.

    string nameAr[AR_SIZE];   //PROCESS - stores the names from the input file.
    int    idAr[AR_SIZE];     //PROCESS - stores the id's from the input file.
    float  balanceAr[AR_SIZE];//PROCESS - stores the balances from the input file.

    //the string type variable named "header" saves the header
    //file as a string inside itself, then outputs that.
    header = PrintHeader(PROGRAMMER, CLASS, SECTION, ASSIGN_NUM, ASSIGN_NAME);
    cout    << header;
    outFile << header;
```

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 56
 57     //the program prompts the user for the input file and output file names
 58     //and then save them as a string and use that to open the file with the
 59     //name that the user inputs.
 60     cout << left;
 61     cout << setw(40) << "What input file would you like to use?";
 62     getline(cin,inFileName);
 63     inFile.open(inFileName.c_str());
 64
 65     cout << setw(40) << "What output file would you like to use?";
 66     getline(cin,outFileName);
 67     outFile.open(outFileName.c_str());
 68
 69     //The "Input" function gets the data from the input file named by
 70     //the user and puts them in three parallel arrays to be used in
 71     //the program.
 72     Input(inFile, AR_SIZE, nameAr, idAr, balanceAr);
 73
 74
 75     /*****************************************************************************
 76     * PROCESS & OUTPUT - Open output file and outputs the data based on the
 77     *                    options that the user inputed in the program.
 78     *****************************************************************************/
 79
 80     //The program shows the menu option to the user and prompts the
 81     //user to which option the user would like to use.
 82     cout << endl;
 83     cout << "MENU OPTIONS" << endl                    << endl;
 84     cout << "1 - Find the larger balance"             << endl;
 85     cout << "2 - Find the smaller balance"            << endl;
 86     cout << "3 - Obtain sum of all balances"          << endl;
 87     cout << "4 - Obtain the average of all balances" << endl;
 88     cout << "5 - Find Person"                         << endl;
 89     cout << "0 - Exit"                                << endl;
 90
 91     cout << "Enter an option (0 to exit) : ";
 92     cin  >> option;
 93
 94     /*****************************************************************************
 95     * PROCESS - Begins to use if and else statement based on the user input for
 96     *           the "option" and chooses the right function to do the work.
 97     *****************************************************************************/
 98
 99     while (option != 0)//While loop that continues to run the program
100     {                  //until the user inputs "0" as an option.
101
102         if (option == 1 || option == 2)//If statement for the first two
103         {                              //options, because they are in same
104                                        //functions.
105
106             //This function gets the index of the larger balance
107             //or the smaller balance from the array and returns it
108             // to the variable named "balanceIndex".
109             balanceIndex = SearchBalance(balanceAr, option, AR_SIZE);
110
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111         }//End of the if statement for the first two options
112
113         else if (option == 3 || option == 4)//If statement for the second
114         {                                    //two options because they are
115                                              //in the same function.
116
117             //This function gets the sum or the average of all balances
118             // and returns the value to the variable named "sumOrAvg".
119             sumOrAvg = SumOrAvg(balanceAr, option, AR_SIZE);
120
121         }//End of if statement for the second two options
122
123         else if (option == 5)//If statement for the last option
124         {
125             //This function ask the user for who is the user is searching for
126             //from the list, then searches for the name in the list and if the
127             //name was found, it passes the name's index from the array to the
128             //variable named "nameIndex" and prints out "found", if the name
129             //doesn't exists in the list, then it prints out the name and
130             //"was not found".
131             nameIndex = SearchName(nameAr,AR_SIZE);
132
133         }//End of if statement for the last option
134
135         /*************************************************************************
136         * OUTPUT - This function outputs the result in the output file.
137         *************************************************************************/
138
139         //This function outputs all the data acquired from the arrays by
140         //the user from the menu to an output file.
141         FileOutput(outFile, nameAr, idAr, balanceAr, option, balanceIndex,
    sumOrAvg, nameIndex);
142
143         //The program shows the menu again and prompts the user
144         //to change the option for the while loop.
145         cout << endl;
146         cout << "MENU OPTIONS" << endl                    << endl;
147         cout << "1 - Find the larger balance"             << endl;
148         cout << "2 - Find the smaller balance"            << endl;
149         cout << "3 - Obtain sum of all balances"          << endl;
150         cout << "4 - Obtain the average of all balances" << endl;
151         cout << "5 - Find Person"                         << endl;
152         cout << "0 - Exit"                                << endl;
153
154         cout << "Enter an option (0 to exit) : ";
155         cin  >> option;
156     }
157
158     //This message is shown to show the user that the program is done
159     //completely and it is terminated.
160     cout << "\n\nThank you for using my program.";
161     cout << right;
162
163
164     //These are for closing the files because the program has ended
```

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165     inFile.close();
166     outFile.close();
167 
168     //Returning "0" because of the int main.
169     return 0;
170 
171 }
172 
```