```cpp
1 /
  *****************************************************************
  ***********
2 * PROGRAMMER : Ali Eshghi & Elsa Micklnin
3 * STUDENT ID : 1112261     & 1028119
4 * CLASS      : CS1B
5 * SECTION    : MW 7:30pm
6 * LAB #3     : Functions and arrays
7 * DUE DATE   : 10 September 2019
8
  *****************************************************************
  **********/
9 #include "header.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 Lab
24
  *****************************************************************
  ******/
25     const string PROGRAMMER   = "Ali Eshghi & Elsa Micklin";
26     const string CLASS     = "CS1B";
27     const string SECTION  = "MW: 7:30p — 9:50p";
28     const int    ASSIGN_NUM   = 3;
29     const string ASSIGN_NAME  = "Greatest Common Divisor";
30     const char   AS_TYPE      = 'L';
31
32
33     /*************
```

```
34        * VARIABLES *
35        ************/
36
37     int num1;        //IN – used for input from user
38     int num2;        //IN – used for input from user
39     int gcd;      //OUT– outputs the greatest common divisor
40     string header;  //OUT– outputs the headerfile
41     int index;       //PROCESS– used for the for loop
42     string result;  //OUT– string sentence to output file of
   results
43
44
45     /
   *******************************************************************
   *******
46     * PROCESS & OUTPUT – open output file and output class heading
47
   *******************************************************************
   ******/
48
49     ofstream outFile;
50
51     outFile.open("outPut.txt");
52
53     PrintHeaderFile(outFile, ASSIGN_NAME, AS_TYPE, ASSIGN_NUM,
   CLASS, SECTION);
54
55     header = PrintHeaderScreen(ASSIGN_NAME, AS_TYPE, ASSIGN_NUM,
   CLASS, SECTION);
56
57     cout    << header;
58     outFile << header;
59
60     /
   *******************************************************************
   *******
61     * PROCESS – begin to prompt user for two integers. run set
   number of times
62
   *******************************************************************
   ******/
63
64
65     for(index = 1; index <=4; index++)
66     {
```

```
67
68          /
   **************************************************************************
   ***
69          * INPUT – prompt user for two values
70
   **************************************************************************
   **/
71          ReadTwoInts(num1, num2);
72
73          /
   **************************************************************************
   ***
74          * PROCESS – calculate greatest common divisor
75
   **************************************************************************
   **/
76
77          gcd = GreatestCommonDivisor(num1, num2);
78
79          /
   **************************************************************************
   ***
80          * OUTPUT – make result into string and output to file
81
   **************************************************************************
   **/
82
83          result = OutputResults(num1, num2, gcd);
84
85          outFile << endl << result;
86
87      }
88
89      cout << "Thank you for using my GCD calculator!\n";
90      cout << "----------------------------------------";
91
92      outFile.close();
93
94
95
96
97      return 0;
98 }
99
```

100